STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

August 11, 2025

J.R. "JOEY" HOPKINS
SECRETARY

U. S. Army Corps of Engineers
Regulatory Field Office
151 Patton Avenue, Room 208
Asheville, NC 28805

NC Division of Water Resources
Transportation Permitting Branch
2090 U.S. 70 Highway
Swannanoa, NC 28778-8211

ATTN: Ms. Crystal Amschler, NCDOT Coordinator

Ms. Amy Annino, NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permit 3 & 401 Written Water Quality Certification under the Expedited Processing Provisions for Hurricane Helene Response** for the Replacement of Bridge 62 over Cove Creek on SR 1500 (Poplar Cove Road) in Haywood County, Division 14, WBS DF18313.2044210.

Dear Madams:

The North Carolina Department of Transportation (NCDOT) proposes the following project as the result of damage caused by Hurricane Helene in late September 2024:
The replacement of Bridge 62 over Cove Creek with a single-span bridge.

Brief Damage Summary and Current temporary/ emergency structure:

The previous 26-foot long, bridge was critically damaged by the storm and temporarily replaced with two corrugated metal pipes, 60" and 72" in diameter, and 40 feet long.

Proposed Replacement:
A new single-span, 50-foot-long bridge will replace the damaged bridge.
As SR 1500 has no outlet, the new bridge will be constructed just downstream and traffic will be maintained on the existing temporary pipes. Staged construction will be used to minimize the footprint and to shift traffic off of the temporary pipes as soon as practicable.

Avoidance and Minimization:
-The bridge length will be nearly doubled, creating an increased hydraulic opening and connectivity.
-The proposed bridge will have no direct discharge into the creek.
-Staged construction will be used to minimize the footprint.
-Stormwater runoff is discharged as far away from the stream and at the lowest velocities practicable.
-Bank stabilization is proposed to stabilize the stream banks.
-A riprap free zone will exist under the bridge.

Lead Federal Agency: FEMA is the lead federal agency for this project.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL ANALYSIS UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

Telephone: (919) 707-6000
Customer Service: 1-877-368-4968
Website: www.ncdot.gov

Location:
1000 BIRCH RIDGE DRIVE
RALEIGH NC 27610

Proposed Activities in Streams:

Impact Site	Impact Category	Permanent Fill	Bank Stabilization	Temporary Impacts	Permit Proposed/ Impact Description
	Maintenance Exemption	--	--	--	--
	Non-Notifying	--	--	--	--
Site 1 **Cove Creek**	**Notification Required (Not After the fact)**	--	53 lf	--	**NWP 3:** Due to the close proximity of the road and steep banks, and the existing pipes, the banks along the existing bridge will require bank stabilization once the pipes are removed.
			10 lf	--	**NWP 3:** Bank stabilization is required to prevent erosion at the outfall of a new stormwater swale.
		--	--	0.02 ac	**NWP 3:** Temporary impacts are required to build the new bridge. Although the impact is shown to include the entire channel, no more than 50% of the stream will be blocked at any time.
	Notification Required (After the fact)	--	--	40 lf	**NWP 3:** Two temporary/ emergency pipes.
	Totals:	--	**63 lf**	40 lf **0.02 ac**	

The information above is provided in accordance with the "U.S. Army Corps of Engineers, Wilmington District's Information for Hurricane Helene Recovery and Repair Work Conducted by the North Carolina Department of Transportation in Waters of the U.S." dated February 10, 2025.

Days after Helene:

south approach, looking north (restricted)

Critically damaged bridge replaced with emergency pipes:

Endangered Species Act
Protected Species listed from IPaC[1] as of the date of this application:

Common Name	Habitat Present	Survey Dates[2]	Proposed Biological Conclusion	FWS Concurrence Remarks
Gray bat	Yes	n/a	May Affect, Not Likely to Adversely Affect	Attached
Indiana bat	Yes	n/a	May Affect, Not Likely to Adversely Affect	Attached
Northern long-eared bat	Yes	n/a	May Affect, Not Likely to Adversely Affect	Attached
Small whorled pogonia	?	?	No Effect	n/a
Eastern hellbender (Proposed)[3]	n/a	n/a	n/a	n/a
Monarch butterfly (Proposed)[3]	n/a	n/a	n/a	n/a

1 IPaC – Information for Planning and Consultation (US Fish and Wildlife Service)
2 Due to the recent listings of Eastern hellbender and monarch butterfly within the proposed action area, NCDOT does not have complete information at this time. It is anticipated that construction will be complete by the timeframes proposed for full listing, should the species be formally listed.

Historic Resources
Information Attached

106 Topic	Findings
Historic Architecture	No Surveys Required
Archaeology	No Surveys Required
Tribal Coordination	Tribal Coordination Letters were sent to the following Tribes on February 18, 2025: Eastern Band of Cherokee Indians, United Keetoowah Band of Cherokee Indians in Oklahoma, Muscogee (Creek) Nation, Cherokee Nation (response received March 18, 2025), Catawba Indian Nation (response received March 7, 2025)

If you have any questions or need additional information, please contact Michael Turchy, at maturchy@ncdot.gov or (919) 707-6157.

Sincerely,

Digitally signed by Michael Turchy

Michael A. Turchy
Environmental Coordination and Permitting Group Leader

ePCN

Pre-Construction Notification (PCN) Form

For Nationwide Permits and Regional General Permits

(along with corresponding Water Quality Certifications)

December 4, 2023 Ver 4.3

*Please note: fields marked with a red asterisk * below are required. You will not be able to submit the form until all mandatory questions are answered.*

Also, if at any point you wish to print a copy of the E-PCN, all you need to do is right-click on the document and you can print a copy of the form.

Below is a link to the online help file.

https://edocs.deq.nc.gov/WaterResources/DocView.aspx?dbid=0&id=2196924

A. Processing Information

If this is a courtesy copy, please fill in this with the submission date.

Does this project involve maintenance dredging funded by the Shallow Draft Navigation Channel Dredging and Aquatic Weed Fund, electric generation projects located at an existing or former electric generating facility, or involve the distribution or transmission of energy or fuel, including natural gas, diesel, petroleum, or electricity? *

○ Yes ◉ No

Is this application for a project associated with emergency response/repairs from Hurricane Helene impacts to your project or property?

◉ Yes ○ No

Is this project connected with ARPA funding or S.L. 2023-134 (earmark)? *

○ ARPA ○ S.L. 2023-134 (earmark) ◉ No

County (or Counties) where the project is located: *

Haywood

Is this a NCDMS Project *

○ Yes ◉ No

Click Yes, only if NCDMS is the applicant or co-applicant.

DO NOT CHECK YES, UNLESS YOU ARE DMS OR CO-APPLICANT.

Is this project a public transportation project? *

◉ Yes ○ No

This is any publicly funded by municipal,state or federal funds road, rail, airport transportation project.

Is this a NCDOT Project? *

◉ Yes ○ No

(NCDOT only) T.I.P. or state project number:

Helene Bridge Restoration - Haywood Bridge 62 over Cove Creek

WBS # *

DF18313.2044210

(for NCDOT use only)

1a. Type(s) of approval sought from the Corps: *

☑ Section 404 Permit (wetlands, streams and waters, Clean Water Act)

☐ Section 10 Permit (navigable waters, tidal waters, Rivers and Harbors Act)

Has this PCN previously been submitted? *

○ Yes

◉ No

1b. What type(s) of permit(s) do you wish to seek authorization? *

☑ Nationwide Permit (NWP)

☐ Regional General Permit (RGP)

☐ Standard (IP)

1c. Has the NWP or GP number been verified by the Corps? *

○ Yes ◉ No

Nationwide Permit (NWP) Number: 03 - Maintenance

NWP Numbers (for multiple NWPS):

List all NW numbers you are applying for not on the drop down list.

1d. Type(s) of approval sought from the DWR: *

check all that apply

- [x] 401 Water Quality Certification - Regular
- [ ] Non-404 Jurisdictional General Permit
- [ ] Individual 401 Water Quality Certification
- [ ] 401 Water Quality Certification - Express
- [ ] Riparian Buffer Authorization

1e. Is this notification solely for the record because written approval is not required?

*

For the record only for DWR 401 Certification: ○ Yes ◉ No

For the record only for Corps Permit: ○ Yes ◉ No

1f. Is this an after-the-fact permit application? *

○ Yes ◉ No

1g. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts?

If so, attach the acceptance letter from mitigation bank or in-lieu fee program.

○ Yes ◉ No

Acceptance Letter Attachment

Click the upload button or drag and drop files here to attach document

FILE TYPE MUST BE PDF

1h. Is the project located in any of NC's twenty coastal counties? *

○ Yes ◉ No

1j. Is the project located in a designated trout watershed? *

◉ Yes ○ No

You must submit a copy to the appropriate Wildlife Resources Commission Office.

Link to trout information: http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/Trout.aspx

B. Applicant Information

1a. Who is the Primary Contact? *

Michael Turchy

1b. Primary Contact Email: *

maturchy@ncdot.gov

1c. Primary Contact Phone: *

(xxx)xxx-xxxx

(919)707-6157

1d. Who is applying for the permit? *

- [ ] Owner
- [x] Applicant (other than owner)

(Check all that apply)

1e. Is there an Agent/Consultant for this project? *

○ Yes ◉ No

2. Owner Information

2a. Name(s) on recorded deed: *

NCDOT

2b. Deed book and page no.:

2c. Contact Person:

(for Corporations)

2d. Address *

Street Address

1598 Mail Service Center

Address Line 2

City

Raleigh

State / Province / Region

NC

Postal / Zip Code

27699

Country

US

2e. Telephone Number: *

(xxx)xxx-xxxx

(919)707-6157

2f. Fax Number:

(xxx)xxx-xxxx

2g. Email Address: *

maturchy@ncdot.gov

3. Applicant Information (if different from owner)

3a. Name: *

Michael Turchy

3b. Business Name:

(if applicable)

3c. Address *

Street Address

1598 Mail Service Center

Address Line 2

City

Raleigh

State / Province / Region

NC

Postal / Zip Code

27699

Country

US

3d. Telephone Number: *

(919)707-6157

(xxx)xxx-xxxx

3e. Fax Number:

(xxx)xxx-xxxx

3f. Email Address: *

maturchy@ncdot.gov

C. Project Information and Prior Project History

1. Project Information

1a. Name of project: *

Restoration of Haywood Bridge 62

1b. Subdivision name:

(if appropriate)

1c. Nearest municipality / town: *

Fines Creek

2. Project Identification

2a. Property Identification Number:

(tax PIN or parcel ID)

2b. Property size:

(in acres)

2c. Project Address

Street Address

Address Line 2

City

State / Province / Region

Postal / Zip Code

Country

2d. Site coordinates in decimal degrees

Please collect site coordinates in decimal degrees. Use between 4-6 digits (unless you are using a survey-grade GPS device) after the decimal place as appropriate, based on how the location was determined. (For example, most mobile phones with GPS provide locational precision in decimal degrees to map coordinates to 5 or 6 digits after the decimal place.)

Latitude: *

35.6763

ex: 34.208504

Longitude: *

-82.9322

-77.796371

3. Surface Waters

3a. Name of the nearest body of water to proposed project: *

Cove Creek

3b. Water Resources Classification of nearest receiving water: *

C

Surface Water Lookup

3c. What river basin(s) is your project located in? *

French Broad

3d. Please provide the 12-digit HUC in which the project is located. *

060101060303

River Basin Lookup

4. Project Description and History

4a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: *

Transportation facility damaged by Hurricane Helene. Agricultural.

4b. Have Corps permits or DWR certifications been obtained for this project (including all prior phases) in the past? *

○ Yes ◉ No ○ Unknown

4f. List the total estimated acreage of all existing wetlands on the property:

0

4g. List the total estimated linear feet of all existing streams on the property:

(intermittent and perennial)

100

4h. Explain the purpose of the proposed project: *

Re-establish the transportation facility damaged by Hurricane Helene.

4i. Describe the overall project in detail, including indirect impacts and the type of equipment to be used: *

See cover letter.

5. Jurisdictional Determinations

5a. Have the wetlands or streams been delineated on the property or proposed impact areas? *

○ Yes ◉ No ○ Unknown

Comments:

5b. If the Corps made a jurisdictional determination, what type of determination was made? *

○ Preliminary ○ Approved ○ Not Verified ○ Unknown ◉ N/A

Corps AID Number:

Example: SAW-2017-99999

5c. If 5a is yes, who delineated the jurisdictional areas?

Name (if known):

Agency/Consultant Company:

Other:

6. Future Project Plans

6a. Is this a phased project? *

○ Yes ◉ No

Are any other NWP(s), regional general permit(s), or individual permits(s) used, or intended to be used, to authorize any part of the proposed project or related activity? This includes other separate and distant crossing for linear projects that require Department of the Army authorization but don't require pre-construction notification.

D. Proposed Impacts Inventory

1. Impacts Summary

1a. Where are the impacts associated with your project? (check all that apply):

☐ Wetlands ☑ Streams-tributaries ☐ Buffers
☐ Open Waters ☐ Pond Construction

3. Stream Impacts

If there are perennial or intermittent stream impacts (including temporary impacts) proposed on the site, then complete this question for all stream sites impacted.

"S." will be used in the table below to represent the word "stream".

	3a. Reason for impact * (?)	3b.Impact type *	3c. Type of impact *	3d. S. name *	3e. Stream Type * (?)	3f. Type of Jurisdiction *	3g. S. width *	3h. Impact length *

S1	Bridge Replacement	Permanent	Bank Stabilization	Cove Creek	Perennial	Both	8 Average (feet)	63 (linear feet)
S2	Temporary Pipes	Temporary	Culvert	Cove Creek	Perennial	Both	8 Average (feet)	40 (linear feet)
S3	Temporary Work Pad	Temporary	Workpad/Causeway	Cove Creek	Perennial	Both	8 Average (feet)	40 (linear feet)

** All Perennial or Intermittent streams must be verified by DWR or delegated local government.

3i. Total jurisdictional ditch impact in square feet:

0

3i. Total permanent stream impacts:

63

3i. Total temporary stream impacts:

80

3i. Total stream and ditch impacts:

143

3j. Comments:

see cover letter table for accurate impact breakdown.

E. Impact Justification and Mitigation

1. Avoidance and Minimization

1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing the project: *

See cover letter.

1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques: *

See cover letter.

2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State

2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State?

○ Yes ◉ No

2b. If this project DOES NOT require Compensatory Mitigation, explain why:

NC Stream Temperature Classification Maps can be found under the Mitigation Concepts tab on the Wilmington District's RIBITS website.

F. Stormwater Management and Diffuse Flow Plan (required by DWR)

*** Recent changes to the stormwater rules have required updates to this section .***

1. Diffuse Flow Plan

1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?

○ Yes ◉ No

For a list of options to meet the diffuse flow requirements, click here.

If no, explain why:

2. Stormwater Management Plan

2a. Is this a NCDOT project subject to compliance with NCDOT's Individual NPDES permit NCS000250? *

◉ Yes ○ No

Comments:

G. Supplementary Information

1. Environmental Documentation

1a. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land? *

◉ Yes ○ No

1b. If you answered "yes" to the above, does the project require preparation of an environmental document pursuant to the requirements of the National or State (North Carolina) Environmental Policy Act (NEPA/SEPA)? *

(●) Yes ( ) No

1c. If you answered "yes" to the above, has the document review been finalized by the State Clearing House? (If so, attach a copy of the NEPA or SEPA final approval letter.) *

(●) Yes ( ) No

2. Violations (DWR Requirement)

2a. Is the site in violation of DWR Water Quality Certification Rules (15A NCAC 2H .0500), Isolated Wetland Rules (15A NCAC 2H .1300), or DWR Surface Water or Wetland Standards or Riparian Buffer Rules (15A NCAC 2B .0200)? *

( ) Yes (●) No

3. Cumulative Impacts (DWR Requirement)

3a. Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality? *

( ) Yes (●) No

3b. If you answered "no," provide a short narrative description.

4. Sewage Disposal (DWR Requirement)

4a. Is sewage disposal required by DWR for this project? *

( ) Yes ( ) No (●) N/A

5. Endangered Species and Designated Critical Habitat (Corps Requirement)

5a. Will this project occur in or near an area with federally protected species or habitat? *

(●) Yes ( ) No

5b. Have you checked with the USFWS concerning Endangered Species Act impacts? *

(●) Yes ( ) No

5c. If yes, indicate the USFWS Field Office you have contacted.

Asheville

5d. Is another Federal agency involved? *

(●) Yes ( ) No ( ) Unknown

What Federal Agency is involved?

FEMA

5e. Is this a DOT project located within Division's 1-8? *

( ) Yes (●) No

5f. Will you cut any trees in order to conduct the work in waters of the U.S.? *

(●) Yes ( ) No

5g. Does this project involve bridge maintenance or removal? *

(●) Yes ( ) No

5g(1). If yes, have you inspected the bridge for signs of bat use such as staining, guano, bats, etc.? Representative photos of signs of bat use can be found in the NLEB SLOPES, Appendix F, pages 3-7.

( ) Yes (●) No

Link to the NLEB SLOPES document: http://saw-reg.usace.army.mil/NLEB/1-30-17-signed_NLEB-SLOPES&apps.pdf

If you answered "Yes" to 5g(1), did you discover any signs of bat use? *

( ) Yes ( ) No (●) Unknown

***** If yes, please show the location of the bridge on the permit drawings/project plans.**

5h. Does this project involve the construction/installation of a wind turbine(s)? *

( ) Yes (●) No

5i. Does this project involve (1) blasting, and/or (2) other percussive activities that will be conducted by machines, such as jackhammers, mechanized pile drivers, etc.? *

(●) Yes ( ) No

5j. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? *

see attached USFWS concurrence letter.

6. Essential Fish Habitat (Corps Requirement)

6a. Will this project occur in or near an area designated as an Essential Fish Habitat? *

( ) Yes (●) No

6b. What data sources did you use to determine whether your site would impact an Essential Fish Habitat? *

EFH Mapping

7. Historic or Prehistoric Cultural Resources (Corps Requirement)

Link to the State Historic Preservation Office Historic Properties Map (does not include archaeological data: http://gis.ncdcr.gov/hpoweb/

7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)? *

○ Yes ◉ No

7b. What data sources did you use to determine whether your site would impact historic or archeological resources? *

See attached Section 106 documentation.

8. Flood Zone Designation (Corps Requirement)

Link to the FEMA Floodplain Maps: https://msc.fema.gov/portal/search

8a. Will this project occur in a FEMA-designated 100-year floodplain? *

◉ Yes ○ No

8b. If yes, explain how project meets FEMA requirements:

8c. What source(s) did you use to make the floodplain determination? *

FEMA Maps.

Miscellaneous

Comments

The permit package (including this ePCN) can be found here:
https://xfer.services.ncdot.gov/pdea/EnvironmentalPermits/Helene%20Haywood%2062/Haywood%2062%202025-08-11%20Permit%20Application.pdf

Please use the space below to attach all required documentation or any additional information you feel is helpful for application review. Documents should be combined into one file when possible, with a Cover Letter, Table of Contents, and a Cover Sheet for each Section preferred.

Click the upload button or drag and drop files here to attach document

Haywood 62 2025-08-11 Permit Application.pdf 11.38MB

File must be PDF or KMZ

Signature

*

☑ By checking the box and signing below, I certify that:

- The project proponent hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief'; and
- The project proponent hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.
- I have given true, accurate, and complete information on this form;
- I agree that submission of this PCN form is a "transaction" subject to Chapter 66, Article 40 of the NC General Statutes (the "Uniform Electronic Transactions Act");
- I agree to conduct this transaction by electronic means pursuant to Chapter 66, Article 40 of the NC General Statutes (the "Uniform Electronic Transactions Act");
- I understand that an electronic signature has the same legal effect and can be enforced in the same way as a written signature; AND
- I intend to electronically sign and submit the PCN form.

Full Name: *

Michael Turchy

Signature *

Date

8/9/2025

Permit Drawings

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 3.02; Released April 23, 2024)

General Project Information

WBS Element:	DF18314.2044210	**TIP Number:**		**Project Type:**	Bridge Replacement	**Date:**	5/6/2025
NCDOT Contact:	Zachary Shuler, PE			**Contractor / Designer:**	Edward Vance, PE		
Address:	345 Toot Hallow Road Bryson City, NC 28713			**Address:**	3600 Arco Corporate Drive, Suite 135 Charlotte, NC 28273		
Phone:	828-488-0902			**Phone:**	704-287-9684		
Email:	ztshuler@ncdot.gov			**Email:**	eddie.vance@carolina-tea.com		
City/Town:	Fines Creek, NC			**County(ies):**	Haywood		
River Basin(s):	French Broad			**CAMA County?**	No		
Wetlands within Project Limits?	No						

Project Description

Project Length (lin. miles or feet):	340 feet	**Surrounding Land Use:**	Mountainous, Agricultural				
	Proposed Project			**Existing Site**			
Project Built-Upon Area (ac.)	0.2	ac.		0.1	ac.		
Typical Cross Section Description:	2 - 10' paved lanes with 3' grass shoulders without guardrail; 7' grass shoulders with guardrail.			2 - 8' gravel lanes with 0-3' grass shoulders. No guardrail.			
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	N/A	Year: N/A	Existing:	100	Year:	2025

General Project Narrative: (Description of Minimization of Water Quality Impacts)

This project is an emergency replacement of Haywood County Bridge #062 due to Hurricane Helene over Cove Creek near Fines Creek, NC. The project is on Poplar Cove Road (SR-1500). The drainage area for Cove Creek at the crossing is 4.1 square miles and is not located within a FEMA regulated floodplain.

The existing single span, 26-feet long bridge is being replaced with a single span 50-feet at a 45-degree shew. The new bridge is shifted 45-feet downstream to allow for stage construction.

No concentrated stormwater runoff will discharge directly into Cove Creek. Stream banks will be stablized with Class-I Riprap.

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 3.02; Released April 23, 2024)

WBS Element:	DF18314.2044210	TIP/Proj No.:		County(ies):	Haywood	Page	2	of	2

General Project Information

Waterbody Information

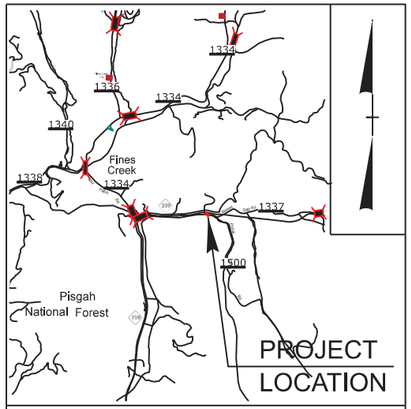
Surface Water Body (1):	Cove Creek		**NCDWR Stream Index No.:**	5-32-8			
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C				
		Supplemental Classification:	None				
Other Stream Classification:	None						
Impairments:	None						
Aquatic T&E Species?	No	Comments:					
NRTR Stream ID:	N/A			**Buffer Rules in Effect:**	N/A		
Project Includes Bridge Spanning Water Body?	Yes	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**			
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)			
(If yes, provide justification in the General Project Narrative)							

Surface Water Body (2):			**NCDWR Stream Index No.:**				
NCDWR Surface Water Classification for Water Body		**Primary Classification:**					
		Supplemental Classification:					
Other Stream Classification:							
Impairments:							
Aquatic T&E Species?		Comments:					
NRTR Stream ID:				**Buffer Rules in Effect:**			
Project Includes Bridge Spanning Water Body?		**Deck Drains Discharge Over Buffer?**		**Dissipator Pads Provided in Buffer?**			
Deck Drains Discharge Over Water Body?		(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)			
(If yes, provide justification in the General Project Narrative)							

Surface Water Body (3):			**NCDWR Stream Index No.:**				
NCDWR Surface Water Classification for Water Body		**Primary Classification:**					
		Supplemental Classification:					
Other Stream Classification:							
Impairments:							
Aquatic T&E Species?		Comments:					
NRTR Stream ID:				**Buffer Rules in Effect:**			
Project Includes Bridge Spanning Water Body?		**Deck Drains Discharge Over Buffer?**		**Dissipator Pads Provided in Buffer?**			
Deck Drains Discharge Over Water Body?		(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)			
(If yes, provide justification in the General Project Narrative)							

01/16/24

CONTRACT: TIP PROJECT: DF18314.2044210



VICINITY MAP (NTS)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HAYWOOD COUNTY

LOCATION: *BRIDGE #430062 ON SR 1500 (POPLAR COVE ROAD) OVER COVE CREEK*

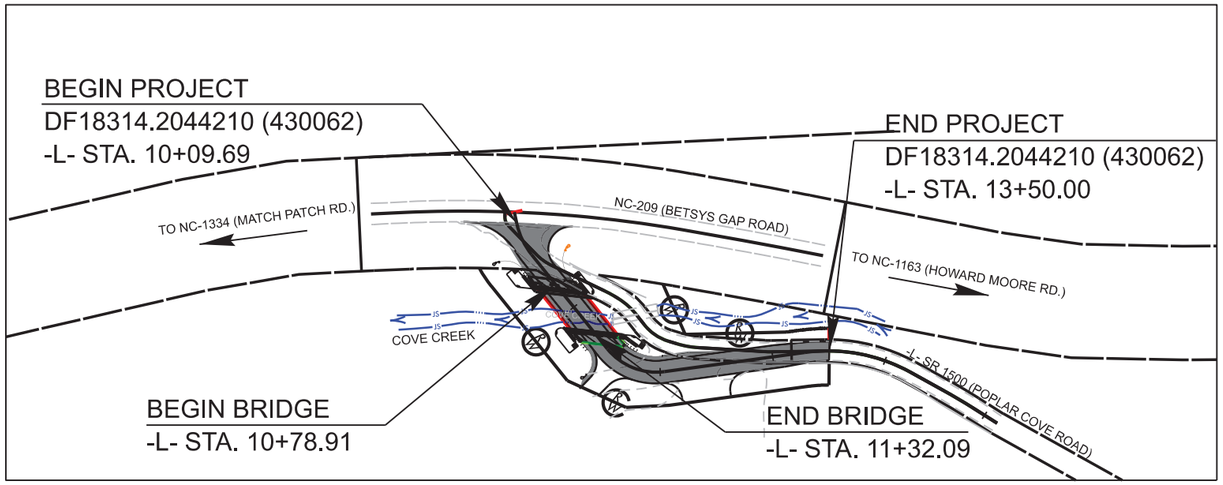
TYPE OF WORK: *GRADING, DRAINAGE, PAVING, AND STRUCTURE*

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	DF18314.2044210	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

WETLAND AND SURFACE WATER IMPACTS 07-30-2025

PERMIT DRAWING SHEET 1 OF 5



GRAPHIC SCALES

20 10 0 20 40
PLANS

20 10 0 20 40
PROFILE (HORIZONTAL)

4 2 0 4 8
PROFILE (VERTICAL)

DESIGN DATA

ADT 2025 = 100

V = 25 MPH
FUNC CLASS = LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT DF18314.2044210 = 0.054 MILES
LENGTH OF STRUCTURE TIP PROJECT DF18314.2044210 = 0.010 MILES
TOTAL LENGTH OF TIP PROJECT DF18314.2044210 = 0.064 MILES

CarolinaTEA
Carolina Transportation Engineers & Associates, PC
3700 ARCO CORPORATE DR. ST. #405
CHARLOTTE, N.C. 28273

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:

DEREK STATON, PE
PROJECT ENGINEER

HISHAM ABDELAZIZ, PE
PROJECT DESIGN ENGINEER

ZACHARY SHULER, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER

SIGNATURE: *P.E.*

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

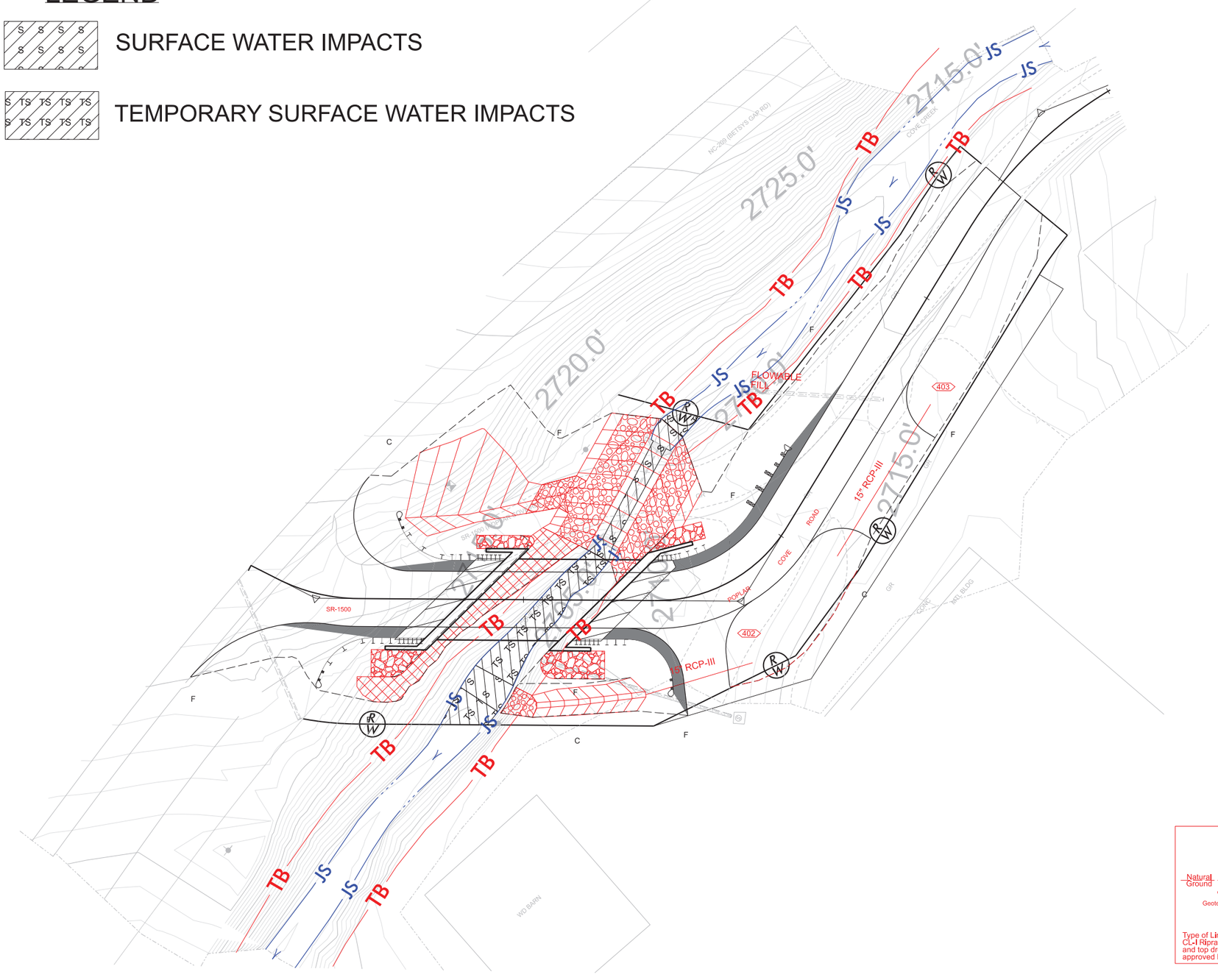
PLAN I

PERMIT DRAWING
SHEET 2 OF 5

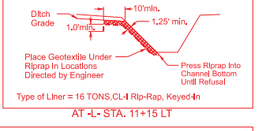
LEGEND

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS



DETAIL C
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner = 16 TONS,CL-I Rip-Rap, Keyed-In

AT -L- STA. 11+15 LT

DETAIL B
REESTABLISH CHANNEL AFTER TEMPORARY PIPE REMOVAL
(Not to Scale)

Type of Liner= Natural Material on Bottom, CL-I Riprap will be keyed into stream bed and top dressed with native bed material as approved by the field engineer.

Approx. 55 L.F. of Channel
Estimate 120 TONS, CL-1 Rip-Rap
240 S.Y. Geotextile

Min. D= ±8.0 Ft.
d= 6.1 Ft. (1' above 10-yr W.S.E.)
B= 10 Ft. (Use natural channel substrate)

FROM APPROX. 25' LT & RT OF EXISTING CULVERT ℄

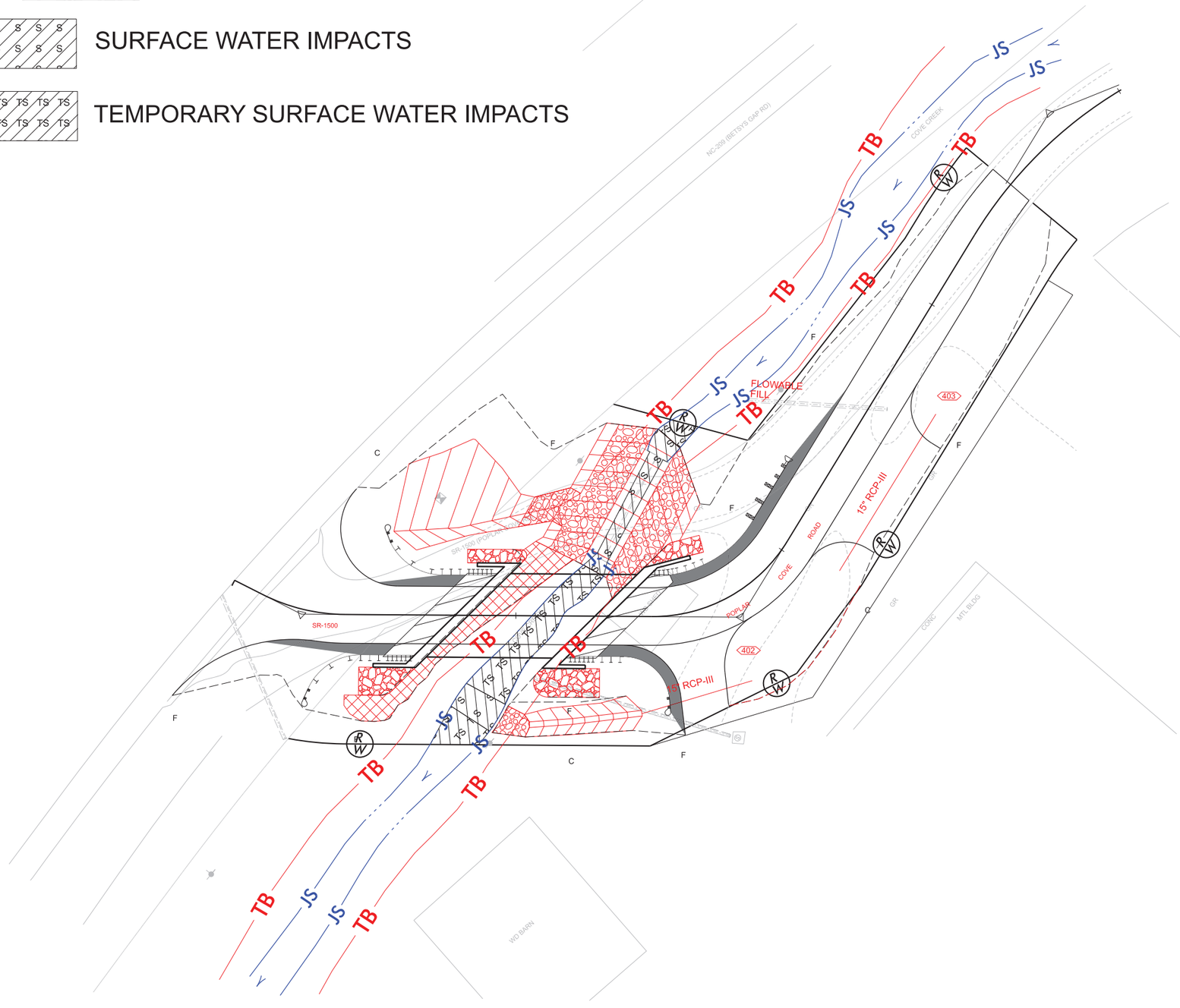
PLAN I

PERMIT DRAWING
SHEET 3 OF 5

LEGEND

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS



DETAIL C
RIP RAP AT EMBANKMENT
(Not to Scale)

Type of Liner = 16 TONS,CL-I Rip-Rap, Keyed-In

AT -L- STA. 11+15 LT

DETAIL B
REESTABLISH CHANNEL AFTER TEMPORARY PIPE REMOVAL
(Not to Scale)

Type of Liner= Natural Material on Bottom, CL-I Riprap will be keyed into stream bed and top dressed with native bed material as approved by the field engineer.

Approx. 55 L.F. of Channel
Estimate 120 TONS, CL-1 Rip-Rap
240 S.Y. Geotextile

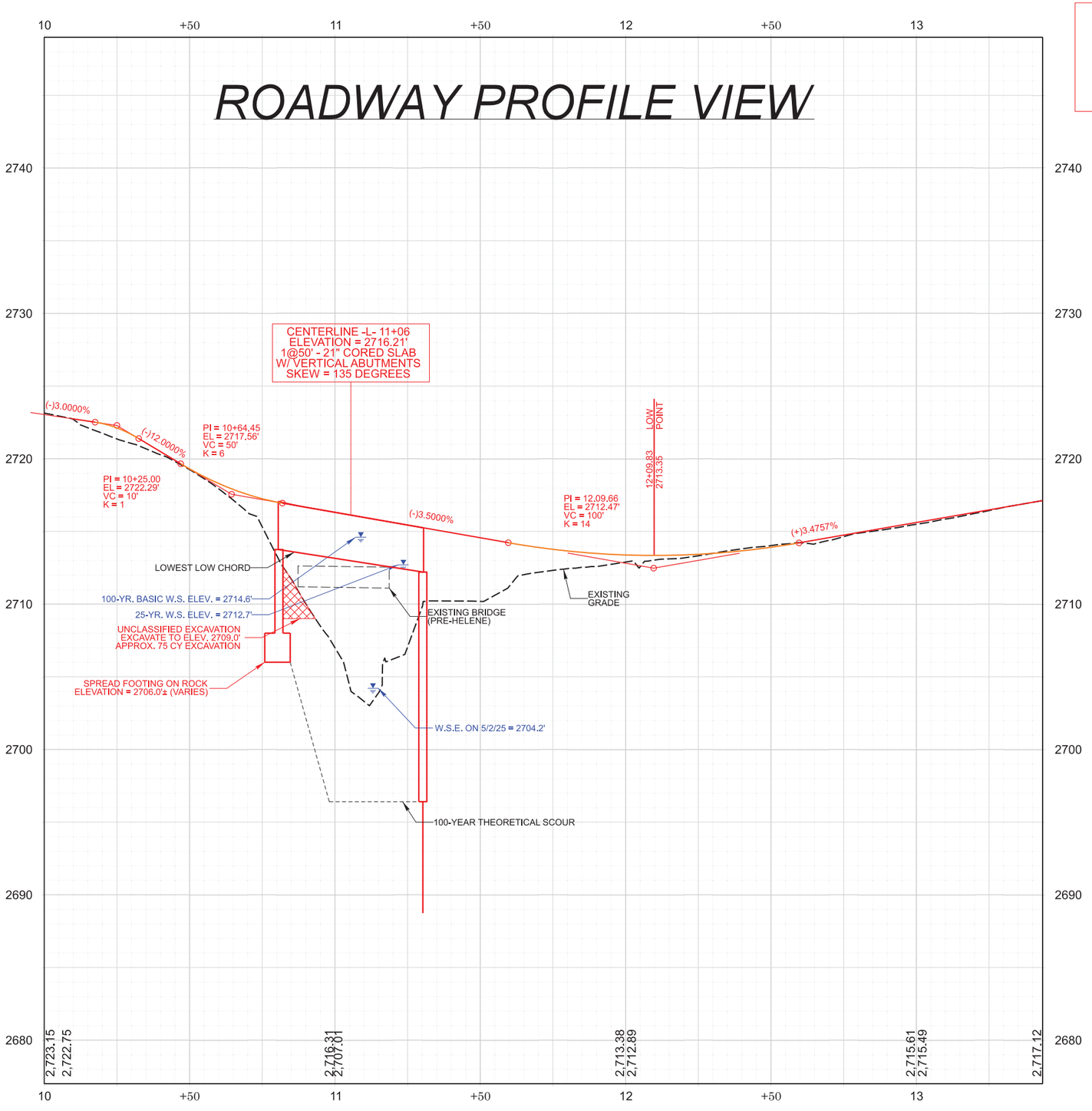
Min. D= ±8.0 Ft.
d= 6.1 Ft. (1' above 10-yr W.S.E.)
B= 10 Ft. (Use natural channel substrate)

FROM APPROX. 25' LT & RT OF EXISTING CULVERT ℄

PROFILE 1

PERMIT DRAWING
SHEET 4 OF 5

ROADWAY PROFILE VIEW



WETLAND AND SURACE WATER IMPACTS SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	-L- 11+06	PROP. BRIDGE CONST.							0.02		75	
1	-L- 11+06 (RT)	RIP RAP AT EMBANKMENT						< 0.01		10		
1	-L- 11+06 (LT)	RIP RAP AT EMBANKMENT						< 0.01		53		
TOTALS*:								0.01	0.02	63	75	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
7/30/25
HAYWOOD COUNTY
STATE PROJECT REFFERNCE NO.
DF18314.2044210
SHEET 5 OF 5

Revised 2018 Feb

ESA Consultation

Henderson 24, 55, 91, 95, 109, 156, 166, 186, 197, 198, 214, , 245, 250, 262, 263, 336
Haywood 2, 31, 34, 41, 42, 44, 46, 62, 163, 178, 219, 266
Polk 112
Transylvania 66

Biological and Conference Opinions and Informal Consultations – Batch Format

Replace Multiple Crossing Structures Destroyed by Tropical Storm Helene in Haywood, Henderson, Polk, Transylvania Counties, North Carolina

Service Log #25-133 through 25-162

Prepared by:

U.S. Fish and Wildlife Service
Asheville Ecological Services Office
160 Zillicoa Street
Asheville, North Carolina 28801

GARY PEEPLES Digitally signed by GARY PEEPLES
Date: 2025.05.13 12:05:20 -04'00'

Gary Peeples
Acting Field Supervisor
Asheville Ecological Services Field Office
Asheville, North Carolina

Table of Contents

Consultation History

December 2, 2024: Discussion between U.S. Fish and Wildlife Service (Service) and North Carolina Department of Transportation (NCDOT) regarding consultation batching processes and applicable avoidance and minimization and conservations measures for projects related to Tropical Storm (TS) Helene damage.
December 3-6, 2024: Email correspondence between the Service and NCDOT discussing aspects of batching process and need for a virtual discussion.
December 11, 2024: Virtual meeting between NCDOT and the Service to discuss batching process and avoidance and minimization and conservations measures.
December 30-31, 2024: Service asked NCDOT questions about project impact estimates and NCDOT provided responses.
January 2, 2025: Phone discussion between NCDOT and the Service regarding aquatic impact area estimates.
January 7, 2025: NCDOT provided needed information on aquatic impact area estimates.
March 20, 2025: NCDOT submitted batched request for informal and formal consultation to the Service.
April 3, 2025: Service asked NCDOT questions on bridge information and related effect determinations.
April 9, 2025: NCDOT provided requested information.
April 10, 2025: NCDOT requested updates to the project information and effect determination for a bridge site.
April 16, 2025: NCDOT submitted three additional bridge locations to the batched request.

Background

On September 27, 2024, TS Helene moved across a large swath of Western North Carolina (WNC). Extreme rainfall and high winds resulted in catastrophic damage across much of the region. Record flooding occurred throughout several watersheds, destroying thousands of transportation sites as well as homes and entire communities. Widespread landslides and timber fall contributed to the damage. In the wake of this disastrous event, the North Carolina Department of Transportation (NCDOT) is tasked with responding to, repairing, and [to the extent possible] replacing the transportation infrastructure destroyed by TS Helene. The following informal and formal consultations are presented in batched format to streamline and expedite review of one group of many similar projects. The format utilized in this consultation is intended for TS Helene-related projects and is tailored to the unique challenges and constraints precipitated by this event. Biological determinations presented below are based on the best available scientific data at the time of this document and incorporate the expertise of WNC's Service and partner resource agency biologists.

Projects

The table below represents the projects reviewed in this batch of TS Helene-related projects. Work will involve the replacement of damaged or wholly destroyed crossing structures, which may include minimal tree clearing, grading, demolition, and in-water construction. The Express Design Build bridges are slated for completion in 2025, construction of some Design Bid Build bridges is expected to begin that year, with all construction concluding by late 2026 based on best-case scenarios. Additional description of the project-associated activities is provided in Section 2 of this document.

Table 1. Batched Consultation Projects – Crossing Structures

Structure Number	Waterbody	County	Location	Status	Service Log No.
440055	Hungry River	Henderson	35.29855, -82.3506	Severe sub damage, span two gone, east approach washed	25-133
440091	North Fork Big Willow Creek	Henderson	35.28937, -82.55027	Bridge gone	25-134
440095	Reedypatch Creek	Henderson	35.44973, -82.28779	Bridge gone; temporary bridge installed	25-135
440109	Clear Creek	Henderson	35.37995, -82.39918	Bridge gone	25-136
440198	Clear Creek	Henderson	35.42464, -82.34445	Bridge gone	25-137
440214	Broad River	Henderson	35.45092, -82.2873	Severe sub damage, approach slabs, piles, bent caps	25-138
440263	Hickory Creek	Henderson	35.47757, -82.34517	Bridge gone; temporary culvert installed	25-139
440262	Hickory Creek	Henderson	35.47692, -82.34277	Bridge gone, temporary culvert and bridge installed	25-140
440250	Perry Creek	Henderson	35.28145, -82.48741	Bridge gone; temporary bridge installed	25-141
440197	Reedypatch Creek	Henderson	35.43759, -82.29491	Severe sub damage, approach slabs, railing, piles, temporary culvert installed	25-142
440186	South Fork Mills River	Henderson	35.37579, -82.61464	Severe sub damage, decking, railing, bent caps, slope protection, approach slabs	25-143
440245	Featherstone Creek	Henderson	35.39394, -82.44225	Bridge destroyed; three temporary culverts installed	25-144
440156	Little Hungry River	Henderson	35.38353, -82.29722	Moderate damage, bent caps, slope protection	25-145
440166	Kyles Creek	Henderson	35.41837, -82.40537	Severe sub damage, approach slabs, end bent, bridge settled one foot	25-146
440336	Clear Creek	Henderson	35.43633, -82.32203	Bridge gone; temporary culvert installed	25-147
440024	Cane Creek	Henderson	35.43541, -82.48887	Severe sub damage, severe erosion and undermining	25-148
430002	Cold Creek	Haywood	35.42304, -82.82276	Bridge gone; temporary culverts installed	25-149
430034	Bald Creek	Haywood	35.61458, -82.89736	Severe sub damage, half of the bridge is missing	25-150
430219	Jonathan's Creek	Haywood	35.5181, -83.08622	Bridge gone; temporary bridge installed	25-151
430042	Pigeon River	Haywood	35.61439, -82.96665	Severe sub damage, approach slabs, railing	25-152
430178	Liner Creek	Haywood	35.61996, -82.86757	Severe sub damage, decking, railing, piles, bent caps, girders, bearing plates, slope protection.	25-153

430062	Cove Creek	Haywood	35.67633, -82.93224	Bridge gone, temporary replacement with two corrugated metal pipes	25-154
430011	Crawford Creek	Haywood	35.39952, -82.82522	Severe sub damage, decking, railing, piles, bent caps, girders, bearing plates, slope protection.	25-155
430031	Liner Creek	Haywood	35.61479, -82.87074	Severe sub damage, decking, railing, piles, bent caps, girders, bearing plates, slope protection.	25-156
430163	West Fork Pigeon River Overflow	Haywood	35.47129, -82.88723	Erosion around end bent	25-157
740112	North Pacolet River	Polk	35.22396, -82.27063	Bridge gone	25-158
870066	North Fork French Broad River	Transylvania	35.15461, -82.84002	Bridge gone	25-159
430266	Campbell Creek	Haywood	35.51388, -83.09998	Bridge gone; temporary bridge installed	25-160
430046	Jonathan's Creek	Haywood	35.59170, -83.00759	Bridge gone	25-161
430041	Crabtree Creek	Haywood	35.60272, -82.93927	Bridge gone	25-162

Informal Consultation

The NCDOT assessed each project location addressed in this document for the presence of suitable habitat for listed species and for the potential effects of project work on listed species with suitable habitat present. The following table outlines the project locations and associated "No Effect" (NE) and "May Affect, Not Likely to Adversely Affect" NLAA determinations, with supporting biological rationale.

Table 2. Species NLAA and NE Determinations

Structure Number	Waterbody	Service Log No.	NE and NLAA Species
440091	North Fork Big Willow Creek	25-134	**NE:** Gray bat, mountain sweet pitcher-plant (*Sarracenia rubra ssp. jonesii*), small whorled pogonia, swamp pink (*Helonias bullata*), Appalachian elktoe (*Alasmidonta raveneliana*). **Rationale:** For bats, absence of roosting habitat – bridge structure completely gone. For plants and Appalachian elktoe, absence of suitable habitat.
440095	Reedypatch Creek	25-135	**NLAA:** Gray bat, northern long-eared bat (*Myotis septentrionalis*), tricolored bat. **Rationale:** Lack of suitable roosting habitat, no tree clearing **NE:** rock gnome lichen (*Gymnoderma lineare*), small whorled pogonia, White irisette, swamp pink. **Rationale:** Absence of suitable habitat.

440109	Clear Creek	25-136	**NE:** Gray bat, northern long-eared bat, tricolored bat, small whorled pogonia, white irisette. **Rationale:** For bats, absence of roosting habitat – bridge structure completely gone, no tree clearing. For plants, absence of suitable habitat.
440198	Clear Creek	25-137	**NE:** Gray bat, northern long-eared bat, tricolored bat, rock gnome lichen, small whorled pogonia, white irisette. **Rationale:** For bats, absence of roosting habitat – bridge structure completely gone, no tree clearing. For plants, absence of suitable habitat.
440263	Hickory Creek	25-139	**NE:** Gray bat, northern long-eared bat, tricolored bat, rock gnome lichen, small whorled pogonia, white irisette. **Rationale:** For bats, absence of roosting habitat, no tree clearing. For plants, absence of suitable habitat.
440262	Hickory Creek	25-140	**NE:** Gray bat, northern long-eared bat, tricolored bat, rock gnome lichen, small whorled pogonia, white irisette. **Rationale:** For bats, absence of roosting habitat, no tree clearing. For plants, absence of suitable habitat.
440250	Perry Creek	25-141	**NE:** Gray bat, tricolored bat, bunched arrowhead, mountain sweet pitcher-plant, rock gnome lichen, small whorled pogonia, swamp pink. **Rationale:** For bats, absence of roosting habitat, no tree clearing. For plants, absence of suitable habitat.
440245	Featherstone Creek	25-144	**NE:** Gray bat, northern long-eared bat, tricolored bat, small whorled pogonia, white irisette. **Rationale:** For bats, absence of roosting habitat, no tree clearing. For plants, absence of suitable habitat.
440156	Little Hungry River	25-145	**NE:** Gray bat, northern long-eared bat, tricolored bat, small whorled pogonia, white irisette. **Rationale:** For bats, absence of roosting habitat, no tree clearing. For plants, absence of suitable habitat.
440166	Kyles Creek	25-146	**NE:** Gray bat, northern long-eared bat, tricolored bat, small whorled pogonia, white irisette, rock gnome lichen. **Rationale:** For bats, absence of roosting habitat, no tree clearing. For plants, absence of suitable habitat.
440336	Clear Creek	25-147	**NE:** Gray bat, northern long-eared bat, tricolored bat, small whorled pogonia, white irisette, rock gnome lichen. **Rationale:** For bats, absence of roosting habitat. For plants, absence of suitable habitat.
440024	Cane Creek	25-148	**NLAA:** Gray bat, northern long-eared bat, tricolored bat. **Rationale:** Existing cored slab bridge will remain, only provides marginal habitat, no tree clearing. **NE:** Small whorled pogonia, white irisette, Appalachian elktoe. **Rationale:** Absence of suitable habitat.
430034	Bald Creek	25-150	**NE:** Gray bat, Indiana bat, tricolored bat, small whorled pogonia, rock gnome lichen, Appalachian elktoe. **Rationale:** For bats, absence of roosting habitat, no tree removal. For plants and Appalachian elktoe, absence of suitable habitat.

430178	Liner Creek	25-153	**NE:** Gray bat, Indiana bat, tricolored bat, small whorled pogonia, rock gnome lichen, Appalachian elktoe. **Rationale:** For bats, existing timber bridge provides only marginal habitat, no tree removal. For plants and Appalachian elktoe, absence of suitable habitat.
430163	West Fork Pigeon River Overflow	25-157	**NE:** Gray bat, Indiana bat, northern long-eared bat, tricolored bat, small whorled pogonia, rock gnome lichen, Appalachian elktoe. **Rationale:** For bats, no evidence of bat use, no tree clearing. For plants and Appalachian elktoe, absence of suitable habitat.
740112	North Pacolet River	25-158	**NE:** Northern long-eared bat, tricolored bat, dwarf-flowered heartleaf (*Hexastylis naniflora*), white irisette. **Rationale:** For bats, absence of roosting habitat – bridge structure completely gone, no tree clearing. For plants, absence of suitable habitat.

In instances where suitable habitat is absent from the action area, or where project actions would not result in impacts to suitable habitat within the action area, we agree that NE determinations are appropriate.

The NLAA determinations for listed bats are based on the presence of suitable riparian roosting, commuting, or foraging habitat and the lack of suitable structure-based roosting habitat; or on the presence of marginally suitable roosting habitat on temporary bridges where roosting would be considered unlikely, as addressed in the table. For these projects, adverse impacts to the noted bat species are not expected – that is, any impacts from the clearing of riparian vegetation or the removal of marginally suitable bridge structures is considered discountable, meaning extremely unlikely to occur based on what is known about the species, the site conditions, and the anticipated activities. Additionally, general protective measures will be implemented to the maximum extent possible. These measures are listed in Section 2.3 of this document, below, and further serve to reduce the likelihood that project work could adversely affect any bats occurring within the action areas.

We believe the requirements under section 7 of the ESA are fulfilled for the species addressed above in relation to the designated projects. However, obligations under section 7 of the ESA must be reconsidered if: (1) new information reveals impacts of this proposed action that may affect listed species or critical habitat in a manner not previously considered, (2) this proposed action is subsequently modified in a manner that was not considered in this review, or (3) a new species is listed or critical habitat is determined that may be affected by the proposed action.

A species proposed for listing under the Endangered Species Act (ESA) is one that the Service or the National Marine Fisheries Service has determined, based on the best available scientific and commercial data, may warrant listing as either endangered or threatened. This proposal is a formal step in the process of providing federal protection to species facing potential extinction across all or a significant portion of their range. Species proposed for listing are not afforded protection under the ESA; however, as soon as a listing becomes effective, the prohibitions against jeopardizing its continued existence and "take" will apply.

On September 14, 2022, the Service published a proposal in the Federal Register to list the tricolored bat as endangered under the ESA. As a result, NCDOT has requested a conference for the tricolored bat as the projects may be on-going after the effective date of any final listing rule, if one is published. Based on the information provided and the analysis discussed for listed bat species above which also has applicability

here, we have determined that the proposed projects will not jeopardize the continued existence of the tricolored bat. Additionally, we would concur with the NCDOT's determination that the projects are NLAA the tricolored bat should the species become listed.

On December 13, 2024, eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*) was proposed for listing as endangered under the ESA. Information provided by NCDOT after the originally submitted consultation request for the subject projects indicates that NCDOT has chosen not to conference on eastern hellbender but will consider the species and coordinate with partner resource agencies as project actions move forward.

Biological Opinion and Conference Opinion

1. Introduction

A biological and conference opinion (Opinion) is the document that states the opinion of the Service in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (ESA), as to whether a Federal action is likely to jeopardize the continued existence of species listed as endangered or threatened; or result in the destruction or adverse modification of designated critical habitat.

This document transmits the Service's Opinion and is based on our review of the proposal to replace several crossing structures (Table 1) and the effects on the federally endangered Appalachian elktoe (*Alasmidonta raveneliana*), gray bat (*Myotis grisescens*), Indiana bat (*Myotis sodalis*), and northern long-eared bat (*Myotis septentrionalis*), and federally proposed endangered tricolored bat (*Perimyotis subflavus*). This Opinion is based on information provided in the assessment submitted to the Service by the NCDOT, field investigations, correspondence between NCDOT and the Service, communications with experts on the affected species, and other sources of information as cited. The Federal Highway Administration is the lead Federal action agency for these projects, with consultation authority delegated to the NCDOT.

2. Proposed Action

As defined in the Service's section 7 regulations (50 CFR 402.02), "*action*" means "*all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas*." 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*." The direct and indirect effects of the actions and activities must be considered in conjunction with the effects of other past and present Federal, state, or private activities, as well as the cumulative effects of reasonably certain future state or private activities within the action areas.

2.1 Action Areas

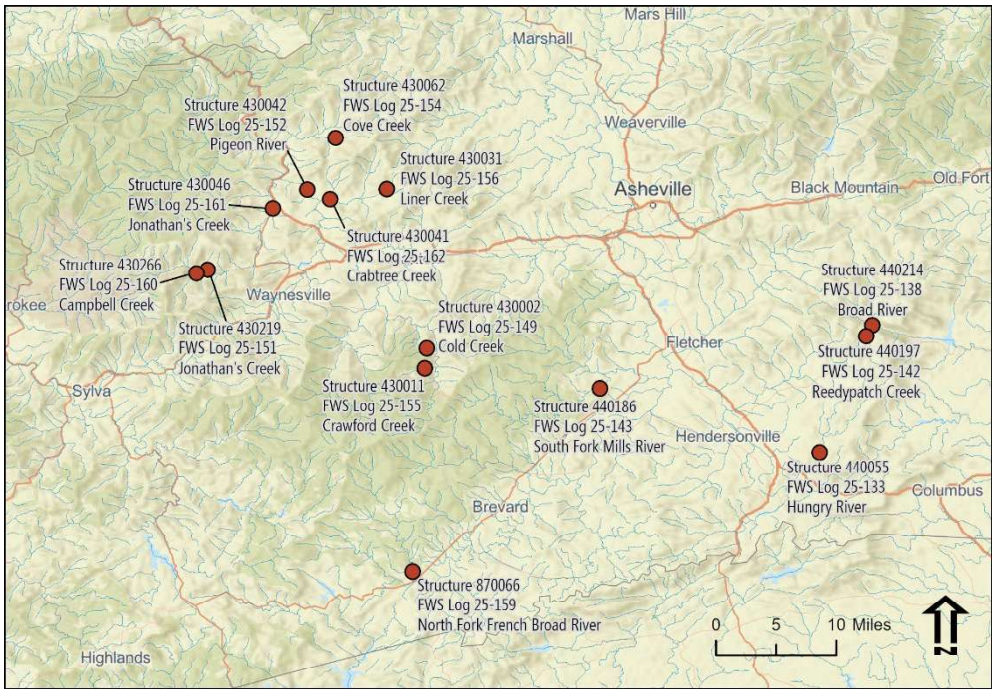
The project action areas are all areas of construction and include any portions of the project waterbodies, as indicated in Table 1, that may be affected by direct or indirect effects. The action areas are comprised of the:

1.) Project construction limits including all project related work such as tree-clearing and grading.
2.) Limits of sedimentation effect, anticipated to extend 100 meters (m) (328 feet (ft)) upstream from each bridge and 400 m (1,314 ft) downstream from each crossing structure in each respective river.

Table 3. Projects that are Likely to Adversely Affect (LAA) Listed Species

Structure Number	Waterbody	County	Location	Service Log No.	Taxa Determination
440055	Hungry River	Henderson	35.29855, -82.35060	25-133	Plants: NE Bats: LAA Aquatics: NE
440214	Broad River	Henderson	35.45092, -82.2873	25-138	Plants: NE Bats: LAA Aquatics: NE
440197	Reedypatch Creek	Henderson	35.43759, -82.29491	25-142	Plants: NE Bats: LAA Aquatics: NE
440186	South Fork Mills River	Henderson	35.37579, -82.61464	25-143	Plants: NE Bats: LAA Aquatics: LAA
430002	Cold Creek	Haywood	35.42304, -82.82276	25-149	Plants: NE Bats: LAA Aquatics: NE
430219	Jonathan's Creek	Haywood	35.5181, -83.08622	25-151	Plants: NE Bats: LAA Aquatics: NE
430042	Pigeon River	Haywood	35.61439, -82.96665	25-152	Plants: NE Bats: LAA Aquatics: NE
430062	Cove Creek	Haywood	35.67633, -82.93224	25-154	Plants: NE Bats: LAA Aquatics: NE
430011	Crawford Creek	Haywood	35.39952, -82.82522	25-155	Plants: NE Bats: LAA Aquatics: NE
430031	Liner Creek	Haywood	35.61479, -82.87074	25-156	Plants: NE Bats: LAA Aquatics: NE
870066	North Fork French Broad River	Transylvania	35.15461, -82.84002	25-159	Plants: NE Bats: LAA Aquatics: NE
430266	Campbell Creek	Haywood	35.51388, -83.09998	25-160	Plants: NE Bats: LAA Aquatics: NE
430046	Jonathan's Creek	Haywood	35.59170, -83.00759	25-161	Plants: NE Bats: LAA Aquatics: NE
430041	Crabtree Creek	Haywood	35.60272, -82.93927	25-162	Plants: NE Bats: LAA Aquatics: NE

Figure 1. Projects that are Likely to Adversely Affect (LAA) Listed Species



2.2 Project Description

The widespread infrastructure failure of numerous DOT bridges and roadways due to TS Helene necessitates an expedited design build repair/replacement process and batched consultation response. Consequently, specific details regarding the proposed project designs in Table 1 and associated action area impact details are not yet finalized. However, project activities and estimated impacts, based on the established practices of NCDOT's crossing structure replacement work, are available. At the time of this consultation, it is anticipated that most replacement bridges will be constructed using concrete box beam or cored slab designs. The general and expected elements of these crossing structure replacement projects are described below. The current estimated timeline for completion of these projects is late fall of 2026.

In-water impacts

Considering the range in structure and waterbody sizes analyzed in this review, and basing amounts on past similarly-sized structure and waterbody NCDOT crossing structure projects in WNC, the estimate of combined temporary and permanent in-water impacts for these projects range from 0.01 – 0.35 acres (or 4,356 – 15,246 square feet) per structure. Some structure replacements will fall in the lower portion of that range of in-water impacts while some will fall in the higher range. These impacts may be in the form of work pad causeways, bent removal and/or placement, and placement of stream-bank stabilization materials.

Tree Clearing, Access Roads, and Demolition

The maximum estimate for tree clearing per structure replacement location is 0.10 acre. That amount will likely be less at most locations, given the variability in site conditions and the extreme scour (and resulting loss of riparian vegetation) during TS Helene flooding. The season during which clearing will

occur is not known for each location but is assumed to occur during any time of year, including summer months. Clearing and grading will occur to allow for access roads and general construction functionality.

Where damaged structures or portions of damaged structures remain in place, demolition will occur. The details of demolition activities and seasonality of demolition will vary by project, with an assumption that these activities will occur during any time of year, including summer months.

2.3 Avoidance and Minimization and Conservation Measures

NCDOT will employ the following agency Standards, Guidelines, and Best Practices to avoid and minimize project mediated activities that could negatively impact listed/proposed species or their habitat.

2.3.1 Avoidance and minimization measures (AMMs)

General (regardless of species): The following General AMMs will be implemented on all projects to minimize impacts to listed/proposed species and habitat:

General AMM1. NCDOT will ensure all operators, employees, and contractors working in areas of suitable habitat for federally listed/proposed species are aware of all NCDOT environmental commitments, including all applicable AMMs and all associated NCDOT guidance documents.

General AMM2. Best management practices (BMP) and sediment and erosion control (SEC) measures will be utilized to prevent non-point source pollution, control storm water runoff, and minimize sediment damage to avoid and reduce overall water quality degradation.

General AMM3. Areas of disturbance, such as tree clearing, grubbing, and grading, will be limited to the maximum extent possible.

Aquatics- General AMMs will minimize impacts to listed/proposed aquatic species and **to the maximum extent possible** the following AMMs be incorporated into project work – though implementation of all aquatic AMMs below cannot be guaranteed at the time of this consultation, given the scale, scope, and timeline constraints addressed previously:

- Aquatic AMM Structure – To the maximum extent possible, structure will be built in the same location as the previous structure, with minimal impact [bents] to water resource, built to today's improved highway and hydraulic standards.

- Aquatic AMM Equipment – To the maximum extent possible, heavy machinery will not be utilized within the waterbody. Additionally, staging and storage areas for equipment and materials will be managed in such a way to ensure that potential spills and leaks do not have access to the waterbody.

- Aquatic AMM Temporary and Permanent Fill – Any temporary fill (i.e. causeways) or permanent (i.e. bents/piers) fill in excess of what was previously present will be avoided and minimized to the maximum extent possible.

- Aquatic AMM Abutments - Existing abutments will be completely removed unless removal results in destabilizing of banks or increases the adverse effect to listed/proposed aquatic species.

- Aquatic AMM Deck Drains – Deck drains that empty directly to the waterbody below will not be implemented on new bridge designs. Surface water drainage transport will be designed to incorporate improved treatment prior to drainage entering the waterbody.

- Aquatic AMM Erosion Control Matting – Coir fiber matting will be utilized instead of plastic or other synthetic matting.

Bats - General AMMs will minimize impacts to listed/proposed bats. **To the maximum extent possible,** the following AMMs will also be incorporated into project work – though implementation of all bat AMMs below cannot be guaranteed at the time of this consultation, given the scale, scope, and timeline constraints addressed previously:

- Bat AMM Noise - Percussive activities will occur only after the tree clearing within the action area has been completed, helping to reduce the exposure of any tree-roosting bats within the action area to high decibel noise.

- Bat AMM Lighting - No new lighting will be added to the action area. Any lighting needed for night work will be directed at the work area and shieled from surrounding waters/landscape, only on when needed, no brighter than necessary, and blue light emissions will be limited.

- Bat AMM Riparian Planting – Disturbed riparian areas will be replanted with native, fast-growing tree and shrub species where feasible, with the understanding that plantings likely cannot be done in utility/drainage/construction easements.

2.3.2 Conservation Measures (CMs)

CMs represent actions, pledged in the project description, that the action agency will implement to further the recovery of the species under review. The beneficial effects of CMs are considered in making determinations of whether the projects will jeopardize the species under consideration in this document.

Aquatic CM: Aquatics Contribution - For individual bridge projects that are LAA aquatic species, the NCDOT will contribute $10,000 for each project structure to the N.C. Nongame Aquatic Species Fund.

Aquatic CM: Relocation - For projects that are LAA aquatic species, prior to project construction, the Service Asheville Field Office NCDOT liaison and the NC Wildlife Resources Commission NCDOT liaison will be contacted to discuss the potential for aquatic species relocation, if applicable and practicable.

Bat CM - Tree Clearing Bat Fund Contribution: For individual bridge projects that are likely to adversely affect bat species during tree removal, the NCDOT will contribute a payment* to the N.C. Nongame Terrestrial Species Fund (or other Service-approved Fund) in support of the recovery of federally protected bat species.

Bat CM Structure Removal Bat Fund Contribution: For individual bridge projects that are LAA bat species during structure removal, the NCDOT will contribute a payment** to the N.C. Nongame Terrestrial Species Fund (or other Service-approved Fund) in support of the recovery of federally listed bat species.

*Contributions made will be based on a 2:1 ratio multiplier specified for the non-volant pup season (May 15-July 31). This ratio offers the most protective coverage as time of year clearing will occur is unknown. The amount will be determined using the United States Department of Agriculture Farm Real Estate Value for North Carolina for 2024 ($5,190/acre).
https://www.nass.usda.gov/Publications/Todays_Reports/reports/land0824.pdf
If tree clearing is unknown, an assumed clearing acreage of 0.1 acre will be used based on estimates from previous clearing work at bridges (NCDOT 2015). The formula is calculated as follows:
$5,190 x 0.1 ac = 519 x 2 (critical life stage multiplier) = $1,038 contribution

**Structures with documented bat use are generally larger than the average bridge, with a median size of 0.10 acre (length x width) (KYTC 2019). Therefore 0.10 acre per bridge is used to calculate the amount of suitable bat habitat lost for projects involving structure impacts. However, the displacement affects to bats that must find a new roost while a new structure is being constructed are considered temporary in nature because the new structure will be replaced with a similar structure that will provide adequate roosting habitat again. Therefore, the ratio multiplier was reduced to 1.5:1 vs 2:1 used in the tree clearing contribution explained above. If the structure is demolished after March 15 when bats return to the landscape, a payment will be required, if not, no payment is required. The formula is calculated as follows:
$5,190 x 0.1 ac = 519 x 1.5 (temporary affect multiplier) = $779 contribution/structure

3. Status of the Species

This section summarizes best available data about the biology and current condition of the Appalachian elktoe, gray bat (*Myotis grisescens*), Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), and tricolored bat (*Perimyotis subflavus*) throughout their ranges that are relevant to formulating an opinion about the actions. More in-depth species information such as species status assessments can be found at the species-specific pages at the Service's Environmental Conservation Online System (ECOS): ecos.fws.gov/ecp/

3.1 Appalachian Elktoe

Scientific Name: *Alasmidonta raveneliana*
Status: Endangered
Date of Listing: November 23, 1994
Critical Habitat: Designated in 2002

3.1.1 Description and Life History

The Appalachian elktoe is a freshwater mussel endemic to the Blue Ridge Physiographic Province of WNC. This species exists in several small populations in the Upper Tennessee River system of North Carolina and Tennessee, inhabiting relatively shallow medium-sized creeks and rivers with cool, well-oxygenated, and moderate- to fast-flowing water.

Lea (1834) described the Appalachian elktoe from the French Broad River (FBR) system in North Carolina. Its shell is thin but not fragile, oblong, and somewhat kidney-shaped, with a sharply rounded anterior margin and a broadly rounded posterior margin. The periostracum (outer shell) of the Appalachian elktoe varies in color from dark brown to yellowish-brown in color. Rays may be prominent in some individuals, usually on the posterior slope, and nearly obscure in other specimens. The reproductive cycle of the Appalachian elktoe is similar to that of other native freshwater mussels. Males

release sperm into the water column, which is then taken in by the female through their siphons during feeding and respiration. The females retain the fertilized eggs in their gills until the larvae (glochidia) fully develop, after which they are released into the water and attach to appropriate species of fish hosts. Juveniles then detach from their fish host and sink to the stream bottom where they may continue to develop, provided that suitable substrate and water conditions are present (Service 2002).

3.1.2 Status and Distribution

The Appalachian elktoe is known only from the mountain streams of WNC and eastern Tennessee. It is found in gravelly substrates often mixed with cobble and boulders, in cracks of bedrock, and in relatively silt-free, coarse sandy substrates (Service 1996).

Although the complete historic range of the Appalachian elktoe is unknown, available information suggests that the species once lived in most of the rivers and larger creeks of the upper Tennessee River system in North Carolina, with the possible exception of the Hiwassee and Watauga River systems. In Tennessee, the species is known only from its present range in the main stem of the Nolichucky River. At the time of listing, two known populations of the Appalachian elktoe existed: the Nolichucky River, including its tributaries (the Cane River and the North Toe River); and the Little Tennessee River and its tributaries. The record in the Cane River was represented by one specimen found just above its confluence with the North Toe River (Service 1996). Since listing, the Appalachian elktoe has been found in additional areas. These occurrences include extensions of the known ranges in the Nolichucky River (North Toe River, South Toe River, and Cane River) and the Little Tennessee River (Tuckasegee River and Cheoah River) as well as a rediscovery in the FBR basin (Pigeon River, Little River, Mills River, and the main stem of the FBR). Many of these newly discovered populations are relatively small in number and range.

The Appalachian elktoe has experienced declines in two populations across its range. A sudden die-off in the Little Tennessee River, (once considered the largest and most secure population), occurred from 2005 – 2015. Surveys in 2017, 2018 and 2019 produced very low numbers, indicating a remnant population only a tiny fraction of its previous size. The species has also declined in the lower portion of the Nolichucky River. Appalachian elktoe were once common in all three tributaries of the Nolichucky River: North Toe, South Toe and Cane Rivers. In 2008, a fish kill resulted in the death of most of the Appalachian elktoe in the Cane River. Beginning in 2013, the Appalachian elktoe population in the lower South Toe River declined steeply which coincided with a major highway construction project and only occurred downstream of receiving streams in the project footprint. Appalachian elktoe are still present in the North and South Toe Rivers, but at reduced densities. It appears that the North Toe population is limited by urban runoff and mining effects to the river. The other populations of Appalachian elktoe appear to be stable (Tuckasegee, Cheoah, and Pigeon Rivers) or expanding (FBR). Prior to 2004, the FBR population appeared to be confined to two tributary streams (Little River and Mills River), but over the last few years the known range of Appalachian elktoe in the main stem of the FBR has expanded and it now appears to be well established, albeit at low density, over a broad area. At the time of this document, impacts to Appalachian elktoe from TS Helene in September of 2024 remain largely unknown. Extreme flooding and scour in many of the rivers occupied by the species is believed to have resulted in reduced abundance in several locations, while other areas likely lost fewer individuals.

3.1.3 Threats

The decline of the Appalachian elktoe throughout its historic range has been attributed to a variety of factors, including sedimentation, point and nonpoint-source pollution, and habitat modification (impoundments, channelization etc.). The low numbers of individuals and the restricted range of most of

the surviving populations make them extremely vulnerable to extirpation from a single catastrophic event or activity. Catastrophic events may consist of natural events, such as flooding or drought, as well as human influenced events, such as toxic spills associated with highways or railroads.

Natural flooding events combined with alteration of watersheds can lead to large fluctuations in abundance observed in Appalachian elktoe populations. Record catastrophic flooding in the range of Appalachian elktoe occurred during TS Helene during late September 2024. Many areas inhabited by Appalachian elktoe were severely damaged by erosive flooding, bedload scour, and bank failures. Observations immediately after the flooding in October 2024 revealed that despite severe flooding, certain portions of Appalachian elktoe occurrences in North Carolina, such as the upper Pigeon River, were relatively intact. Those observations indicate that the species is likely to remain in most of the affected areas, though individual numbers were likely greatly reduced in many inhabited locations. Portions of the FBR basin experienced catastrophic flooding in late summer 2021 due to the remnants of Tropical Storm Fred. The flooding likely resulted in loss of Appalachian elktoe individuals within populations in the hardest-hit portions of the Pigeon, Mills and French Broad Rivers.

Siltation resulting from improper erosion control of various types of land use, including agriculture, forestry, road construction, and development, has been recognized as a major contributing factor to the degradation of mussel populations (Service 1996). Siltation degrades substrate and water quality, increasing potential exposure to other pollutants, and direct smothering of mussels (Ellis 1936). The abrasive action of sediment on mussel shells has been shown to cause erosion of the outer shell, which allows acids to reach and corrode underlying layers (Harman 1974).

Sewage treatment effluent has been documented to significantly affect the diversity and abundance of mussel fauna (Goudreau *et al*. 1988). Goudreau *et al*. found that recovery of mussel populations might not occur for up to 2 river miles (3.22 kilometers) below points of chlorinated sewage effluent. Most of the water bodies where Appalachian elktoe still exist have relatively few point source discharges within the watershed and are rated as having "good" to "excellent" water quality by the North Carolina Division of Water Resources.

The introduction of exotic species, such as the Asian clam (*Corbicula fluminea*) and zebra mussel (*Dreissena polymorpha*), pose significant threats to native freshwater mussels. Competitive interactions for space, food, and oxygen between these species and native mussels, possibly at the juvenile stages (Neves and Widlak 1987) are the main concerns. At the time the Appalachian elktoe was listed, the Asian clam was not known from the stretch of the Little Tennessee River that it occupies; however, it has been observed in the Little Tennessee River in recent years and as mentioned earlier, may be a contributing factor to the decline of that population. When the Appalachian elktoe was listed, it was speculated that, due to its restricted distribution, it "may not be able to withstand vigorous competition" (Service 1996).

3.2 Gray Bat

Scientific Name: *Myotis grisescens*
Status: Endangered
Date of Listing: April 28, 1976
Critical Habitat: None designated

3.2.1 Description and Life History

The gray bat is a medium-sized insectivorous bat with an overall length of about 3.5 inches and a wingspan of 10 to 11 inches. As the name implies, gray bats have gray fur, but the hair often bleaches to

reddish-brown by early summer. The gray bat largely occurs in limestone karst areas, meaning a landscape marked by caves, sinkholes, springs and other features, of the southeastern and midwestern United States.

Gray bats use caves year-round for roosting and hibernating. Seasonal occupancy of caves differs between summer roost and winter hibernacula, and gray bats are known to migrate more than 300 miles between the two. While gray bats are predominantly found roosting in caves, they are known to roost in structures including buildings, bridges and culverts. Bats emerge from summer roosts early in the evening and forage along waterbodies adjacent to forested areas. The species has been documented traveling from a few miles to 20 or more miles between their day roosts and nightly foraging areas.

Adult bats mate upon arrival at the wintering caves in September or early October. Hibernation occurs in deep vertical caves in the winter, where colder temperatures are preferable. Gray bats require consistently cold temperatures to maintain hibernation and conserve energy in the winter months. The adult females will emerge from hibernation in late March or early April. At that time, the females who have mated will begin their pregnancy, while dispersing to maternity caves. Males and juveniles emerge shortly after the females and disperse to bachelor caves. Gray bats are documented using bridges and culverts as roosting habitat during the spring, summer, and fall and show strong philopatry to their summer ranges and typically use the same roost sites year after year (Tuttle 1976; Martin 2007). Gray bats are most commonly observed in bridges of concrete material and their preferred roosting location is in the vertical expansion joints of a bridge deck above piers (NCDOT 2023a), though they can also roost in clogged deck drains and other sheltered areas on crossing structures. According to approximately 2,000 bridge surveys conducted throughout WNC from 2000 - 2023, gray bats have been recorded roosting in bridges at a usage rate of 3% (NCDOT 2023a), with bridge use observed in the covered area from March – November. Up to 1,000 individuals, including males and females, have been observed day-roosting throughout the summer in expansion joints between box beams at two separate bridges (Weber et al. 2020). Sporadic summer use of other concrete type bridges has also been noted for smaller numbers of day-roosting gray bats (NCDOT, 2023a). Gray bats have also been observed within culverts, most commonly of concrete material.

Gray bats primarily forage over open water bodies, such as rivers, streams, lakes, and reservoirs, and associated riparian areas (Tuttle 1976; LaVal et al. 1977; Weber et al. 2020). While foraging, the gray bat consumes a variety of insects, most of which are aquatic (Brack and LaVal 2006). Bats typically travel individually or in small groups that forage in an area for a short period before moving to another area. Studies suggest that gray bats visit multiple foraging areas during the night and travel frequently between these areas.

3.2.2 Status and Distribution

The primary range of gray bats is concentrated in the cave regions of Alabama, Arkansas, Kentucky, Missouri and Tennessee, though its overall range stretches from Virginia to Oklahoma, and Missouri to Alabama. WNC is on the eastern edge of the bat's range. In North Carolina, the gray bat is currently documented from 14 western counties and is possible in an additional 10 counties. Most gray bat occurrences in WNC are centered on the French Broad and Pigeon River watersheds. Gray bats are generally present in North Carolina from March 15 to November 15, when they leave for winter hibernacula. It is believed that many of the gray bats in North Carolina migrate to hibernacula in Tennessee, using the French Broad River as a commuting pathway. The closest active hibernaculum is near Newport, Tennessee (Weber et al. 2020), approximately 20 miles from the border with Haywood and Madison Counties in North Carolina.

Ellison et al. (2003) of the U.S. Geological Survey (USGS) statistically analyzed 1,879 observations of gray bats obtained from 334 roost locations in 14 south-central and southeastern states. They determined that 94.4% of the populations showed stable or increasing populations while 6% revealed a decreasing population. For populations where there was a downward population trend, decreases in population numbers were mostly attributed to continued problems with human disturbance. This increasing population trend has been reflected in the work of Sasse et al. (2007), Martin (2007), and again by Elliott in 2008 in looking at high-priority caves. It is estimated that more than 95% of the species range-wide population hibernate in only 9 caves.

Emergence counts conducted by Indiana State University researchers at known roosts in WNC from 2018-2019 suggested there were at least 2,820 gray bats in the French Broad River basin (Weber et al. 2020). Due to 2024 flooding associated with TS Helene, these numbers may be significantly lower now, though at the time of this document, the impacts from Helene on imperiled species numbers are still unknown. Throughout WNC, there are 58 current element occurrences of the gray bat based on N.C. Natural Heritage Program, NCWRC, and NCDOT records; most are from built structures (largely bridges). The number of gray bats found at each occurrence range from 1 to about 1,500 bats, with some roosts surveyed in the Weber et al. (2020) study hosting >1,000 gray bats during certain times of the season. The most recent winter population estimate of gray bats in the closest hibernaculum to the action area (Rattling Cave, near Newport TN) was 250,689 bats (TWRA 2019).

3.2.3 Threats

Cave disturbance and alteration, loss of forested habitat, pollution of waterways, and significant natural factors including those caused by climate change (flooding, freezing, and forest destruction) are threats to gray bats. Gray bats have been infected by the invasive fungus *Pseudogymnoascus destructans,* the causative agent of white-nose syndrome (WNS), a fungal disease contributing to the declines of several bat species in the U.S.; however, WNS is not considered a major threat to the species.

3.3 Indiana Bat

Scientific Name: *Myotis sodalis*
Status: Endangered
Date of Listing: March 11, 1967
Critical Habitat: Established in 1976

3.3.1 Description and Life History

The Indiana bat is a temperate, insectivorous, migratory bat that hibernates colonially in caves and mines in the winter. The species is widely distributed in a variety of wooded habitats, ranging from highly fragmented woodlands in agricultural landscapes to extensively forested areas. Roosting areas are preferred in forest stands with uneven-aged trees that can supply the canopy with large, dead trees in more direct sunlight and are near foraging areas and water sources. Some roosts do occur in living trees (primarily shagbark hickory) or damaged trees from several species. During winter, Indiana bats are restricted to suitable underground hibernacula. Most of these sites are caves located in karst areas of the east-central United States; however, Indiana bats also hibernate in other cave-like locations, including abandoned mines.

Maternity colonies form in early May and remain together until August. Females will rear a single pup from May into July. Temperatures and weather will alter the length of the time a pup will stay in the primary roost and females will relocate the pup to another snag to manage temperatures and

environmental conditions. In summer, most reproductive females occupy roost sites under the exfoliating bark of dead trees that retain large, thick slabs of peeling bark. Habitats in which maternity roosts occur include riparian zones, bottomland and floodplain habitats, wooded wetlands, and upland communities. Indiana bats typically forage in semi-open to closed (open understory) forested habitats, forest edges, and riparian areas.

Fall swarming and mating takes place between August and November and are at different sites from the actual hibernaculum. Typically, hibernation begins in November and lasts through March. Several variables influence hibernacula selection, but generally Indiana bats prefer caves with stable temperatures that remain below 50°F with humidity greater than 74 percent. Indiana bats emerge from hibernation in March or April and remain near the hibernacula to refuel before migrating to summer ranges. Migration distances vary but have been observed greater than 300 miles. Bats may be concentrated near hibernacula and often roost in trees during fall swarming and spring staging.

Indiana bats primarily feed on flying insects, including some from orders with both an aquatic and terrestrial stage. Numerous foraging habitat studies have found that Indiana bats often forage in closed to semi-open forested habitats and forest edges located in floodplains, riparian areas, lowlands, and uplands; however, old fields and agricultural fields are also used (Service 2007). Drinking water is essential, especially when bats actively forage. Indiana bats obtain water from streams, ponds, and water-filled road ruts in forest uplands. Consistent use of moths, flies, beetles, and caddisflies throughout the year at various colonies suggests that Indiana bats are selective predators to a certain degree, but incorporation of other insects into the diet also indicates that these bats can be opportunistic (Murray and Kurta 2002).

3.3.2 Status and Distribution

Indiana bats can be found primarily in the midwestern and eastern part of the United States, with a range stretching east to west from Vermont to Oklahoma, and north to south from Michigan to Alabama, and comprising approximately 403,883 square miles. WNC falls on the southeast edge of their range. No known active hibernacula are present in WNC, and summer maternity colonies are widely dispersed, with most locations unknown (Service 2019a).

According to the 2024 population status updated (Service 2024), range-wide there are approximately 631,786 Indiana bats, using 194 hibernacula across 15 states. The nine most populous hibernacula are home to 91% of Indiana bats, though none are in North Carolina or adjacent states. The Service divides the Indiana bat range into four recovery units, delineating evidence of population discreteness and genetic differentiation, differences in population trends, and broad-level differences in macrohabitats and land use. North Carolina is part of the Appalachia Recovery Unit, which includes all of West Virginia, as well as portions of Pennsylvania, Virginia, and Tennessee. The Appalachian recovery unit represents 0.2% of the overall Indiana bat population.

There are 20 element occurrences of the Indiana bat in WNC based on NCNHP records, five of these are considered historical. There are several records of Indiana bats roosting in concrete-material bridges associated with a water crossing and of concrete material (NCDOT 2023a). According to approximately 2,000 bridge surveys conducted throughout WNC from 2000 - 2023, Indiana bats have been recorded roosting in WNC bridges at a usage rate of 0.2% (NCDOT 2023a) with use documented to occur from March - July. There are currently no records in North Carolina of Indiana bats roosting in culverts (NCDOT 2023b), though they have been found in culverts in other states. White Oak Blowhole cave in Tennessee (Great Smoky Mountains National Park) is located within five miles of the North Carolina

border. Therefore, part of the designated spring staging and fall swarming habitat associated with this hibernaculum extends into Swain County, NC.

3.3.3 Threats

Threats to the Indiana bat include modifications to caves, mines, and surrounding areas that change airflow and alter microclimate in the hibernacula. Human disturbance and vandalism pose significant threats during hibernation through direct mortality and by inducing arousal and consequent depletion of fat reserves. Natural catastrophes can also have a significant effect during winter because of the concentration of individuals in a relatively few sites. During summer months, possible threats relate to the loss and degradation of forested habitat. Migration pathways and swarming sites may also be affected by habitat loss and degradation. Although populations have increased in recent years, WNS poses an additional threat that has caused and may continue to cause population declines.

3.4 Northern long-eared Bat

Scientific Name: *Myotis septentrionalis*
Status: Endangered
Date of Listing: April 1, 2015 as Threatened; November 30, 2022 as Endangered
Critical Habitat: None designated

3.4.1 Description and Life History

The northern long-eared bat is a wide-ranging species, found in 37 states and eight provinces in North America. The species typically overwinters in caves and mines and spends the remainder of the year in forested habitats. As its name suggests, the northern long-eared bat is distinguished by its long ears, particularly as compared to other bats in the genus *Myotis*.

Northern long-eared bats are a forest bat species that roosts in a variety of forest types and structures. They are known to roost in trees and have also been documented using roost sites such as buildings, artificial roosts, and bridges. During the active season, northern long-eared bats typically roost singly or in maternity colonies underneath bark or more often in cavities or crevices of both live trees and snags (Service 2023). Males' and non-reproductive females' summer roost sites may also include cooler locations, such as caves and mines (Service 2023). With one exception, all bridge roost records in Norther Carolina are associated with a water crossing. There are no records of northern long-eared bats roosting in culverts in North Carolina, though they have been documented using culverts in other states. Northern long-eared bats will overwinter in caves or mines and have been documented using railroad tunnels, storm sewers, and bunkers. Length of hibernation varies depending on location. They may hibernate singly or in small groups and can be found hibernating in open areas but typically prefer caves with deep crevices, cracks, and bore holes that protect from drafts. They typically hibernate from September or October to March or April. More than 780 hibernacula have been documented within the northern long-eared bat range.

Prior to hibernation between mid-August and mid-November, bat activity will increase during the evenings at the entrance of a hibernaculum (fall swarming). Suitable fall swarming habitat is similar to roosting, foraging, and commuting habitat selected during the summer and is most typically within 4-5 miles of a hibernaculum (Service 2023). Likewise, in the spring they emerge from and stage near hibernacula before moving to maternity areas typically in early April to mid-May; however, they may leave as early as March. Northern long-eared bats also roost in trees near hibernacula during spring staging, and Thalken et al. (2018) found that roost trees were situated within 1.2 miles (2km) of

hibernacula during spring staging and the early maternity season. The species migrates relatively short distances between maternity areas and hibernacula.

Northern long-eared bats are more likely to forage under the canopy on forested hillsides and ridges (Nagorsen and Brigham 1993) rather than along riparian areas (Brack and Whitaker 2001; LaVal et al. 1977). Because of this, alternative water sources like seasonal woodland pools may be an important source of drinking water for these bats (rather than just streams and ponds; Francl 2008). Mature forests may be an important habitat type for foraging (Service 2015). Northern long-eared bats have a diverse diet including moths, beetles, flies, leafhoppers, caddisflies, and arachnids (Service 2020a), which they catch while in flight or by gleaning insects off vegetation (Ratcliffe and Dawson 2003).

3.4.2 Status and Distribution

The species' range includes all or portions of 37 eastern and mid-western states and the District of Columbia in the U.S. The northern long-eared bat's range also includes eight Canadian provinces. In WNC, the species range includes all or portions of 26 counties in the western portion of the state.

Prior to the emergence of WNS, northern long-eared bat was abundant and widespread throughout much of its range with 737 occupied hibernacula, a maximum count of 38,181 individuals and its range being spread across >1.2 billion acres in 29 states and 3 Canadian provinces. Numbers vary temporally and spatially, but abundance and occurrence on the landscape were stable (Cheng et al. 2022, p. 204; Wiens et al. 2022, p. 233). Currently, declining trends in abundance and occurrence are evident across much of northern long-eared bat's summer range. Range-wide summer occupancy declined by 80% from 2010–2019. Data collected from mobile acoustic transects found a 79% decline in range-wide relative abundance from 2009–2019 and summer mist-net captures declined by 43–77% compared to pre-WNS capture rates.

There are approximately 169 element occurrences for northern long-eared bat in NC, based on N.C. Natural Heritage Program records, 19 of which are considered historical. The number of bats found at each occurrence ranges from one to more than 80. There have been 22 documented hibernacula, all in caves or mines; however, northern long-eared bats have not been observed using hibernacula in North Carolina since 2014 (NCWRC personal communication September 2022). The Service estimates that there has been an occupancy drop of 85% and a 24% loss of winter colony sites across the Southeast Representation Unit (RPU) overall since 2006 when white-nose syndrome was first documented (Service 2022a).

3.4.3 Threats

The primary factor influencing the viability of the northern long-eared bat range-wide population is WNS. Other primary factors that influence the decline in northern long-eared bat numbers include wind energy mortality, effects from climate change, and habitat loss.

3.5 Tricolored Bat

Scientific Name: *Perimyotis subflavus*
Status: Proposed Endangered
Date of Proposed Listing: September 14, 2022
Critical Habitat: None proposed

3.5.1 Description and Life History

The tricolored bat is one of the smallest bats in North America. The once common species is wide-ranging across the eastern and central US and portions of southern Canada, Mexico and Central America. As its name suggests, the tricolored bat is distinguished by its unique tricolored fur that appears dark at the base, lighter in the middle and dark at the tip.

During the winter, tricolored bats are found in caves and mines, although in the southern US, where caves are sparse, tricolored bats are often found roosting in culverts. During the spring, summer and fall, tricolored bats are found in forested habitats where they roost in trees, primarily among leave. Additionally, tricolored bats have been observed roosting among pine needles, eastern red cedar (*Juniperus virginiana*), within artificial roost structures, beneath porch roofs, bridges, concrete bunkers, and rarely within caves. Female tricolored bats form maternity colonies and switch roost trees regularly. Maternity colonies typically consist of 1 to several females and pups. They usually have twins in late spring or early summer, which are capable of flight in four weeks.

During the winter, across much of their range tricolored bats hibernate in caves and mines; although, in the southern United States, where caves are sparse, they often hibernate in culverts, as well as sometimes in tree cavities and abandoned water wells. In the southern US, hibernation length is shorter compared to northern portions of the range and in the warmest portions of its range. Hibernating tricolored bats do not typically form large clusters; most commonly roost singly, but sometimes in pairs, or in small clusters of both sexes away from other bats (Service 2021). Tricolored bat hibernacula following population crashes from WNS generally host <100 individuals (Service 2021), though solitary hibernation can often occur with this species (Whitaker and Hamilton 1998).

Before entering hibernacula for the winter, tricolored bats demonstrate ‘swarming’ behavior. The peak swarming period for tricolored bats in much of WNC/eastern Tennessee generally starts in mid to late August and extends into November and is a sensitive period for bats. Suitable fall swarming habitat is similar to roosting, foraging, and commuting habitat selected during the summer. Spring staging is the time period between winter hibernation and spring migration to summer habitat (Service 2023). During this time, bats begin to gradually emerge from hibernation, exit the hibernacula to feed, but re-enter the same or alternative hibernacula to resume daily bouts of torpor (state of mental or physical inactivity). Tricolored bats also roost in trees near hibernacula during spring staging.

Tricolored bats are opportunistic feeders and consume small insects including caddisflies, moths, beetles, wasps, flying ants and flies. The species most commonly forages over waterways and along forest edges

3.5.2 Status and Distribution

Tricolored bats have a very wide range that encompasses most of the eastern US from Canada to Florida and west to New Mexico (39 states). They can be found throughout North Carolina and are one of the most commonly encountered cave-dwelling species seen in winter, albeit at much lower densities than prior to the arrival of WNS in the state.

There are 147 NC element occurrences of the tricolored bat based on N.C. Natural Heritage Program records, seven of which are considered historical. The number of bats found at each occurrence range from 1 to 3,000 bats. There have been 79 tricolored bat hibernacula documented, including caves (50), mines (22), root cellars (4), and culverts (3).

For tricolored bats, the Service split the bat's range into three Representation Units (RPUs), two of which, the Northern and Southern RPUs, include the western and eastern halves of WNC, respectively. The Service estimates that, since 2006, the Northern RPU has experienced a 17% decline in summer occupancy and a 57% decline in the number of winter colonies, while the Southern RPU has experienced a 37% decline in summer occupancy and a 24% decline in the number of winter colonies (Service 2021).

3.5.3 Threats

WNS is the primary driver of the species' decline and is predicted to continue to be the primary influence into the future. Wind energy-related mortality is also considered a consequential driver to the bat's viability. Although habitat loss is considered pervasive across the species' range, severity has likely been low given historical abundance and spatial extent; however, as tricolored bat's spatial extent is projected to decline in the future (i.e., consolidation into fewer winter and summer colonies) negative impacts (e.g., loss of a hibernaculum or maternity colony) may be significant.

4. Environmental Baseline

The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process [50 CFR §402.02].

The project action areas contain the existing crossing structures and the roadway approaches, along with the existing utilities and surrounding riparian areas in which project work will occur and are located in the Environmental Protection Agency Blue Ridge Ecoregion in WNC. Past impacts include the original construction and placement of the crossing structures within waterbodies to facilitate transportation in the surrounding locations. Because this document addresses several projects, more detailed information regarding other human activities at each location is not included for the purposes of this consultation review.

4.1 Appalachian Elktoe Within the Action Areas

Flooding and scour from TS Helene impacted all waterbodies included in this consultation. Appalachian elktoe presence within an action area was identified at only one bridge: Henderson County bridge 186. Henderson County bridge 186 that spans South Fork Mills River experienced severe substructure, decking, approach slab, and railing damage, as well as damage to the sloped land surrounding the bridge. Post-storm in-water surveys have not been conducted at this time, given all the constraints already addressed, though discussions regarding site conditions as observed by the Service's Asheville Field Office aquatics recovery lead and/or aquatic biologists with NCWRC and NCDOT's Biological Surveys Group have occurred. While the major flood and scour event damaged the crossing structure and degraded the habitat, the potential for individual Appalachian elktoe to still occur within the action area remains. At the time of this consultation, those individual numbers are believed to be reduced from pre-Helene conditions but are not believed to be zero. One Appalachian elktoe is estimated based on pre-TS Helene estimates and anticipated storm losses.

4.2 Listed and Proposed Bats Within the Action Areas

Structures

Twenty-one of the thirty bridges included in this batch of TS Helene-related projects were completely destroyed. Of the remaining nine bridges, Henderson County structures 055, 186, 197, and 214, and

Haywood County structures and 042, still provide suitable roosting habitat, although significantly reduced and degraded from pre-storm conditions. For gray bats, primary roost structures can support several hundred to over 1,000 individuals, while most structures with observed roosting gray bats in WNC contain 1 to 10 individuals. The structures supporting those higher numbers of gray bats, whether culvert or bridge, are larger than average. The northern long-eared bats and Indiana bats observed roosting on bridges in WNC is between 1 and 2 individuals at any given time. In more detail, Natural Heritage data shows 2 gray bat bridge roost locations in Henderson County, 9 gray bat and 1 Indiana bat bridge roost locations in Haywood County, and 3 gray bat bridge roost locations in Transylvania County. There are currently no culvert roosting records for northern long-eared bat or Indiana bat in NC. Records of tricolored bat roosting in bridges and culverts in WNC consist mainly of 1-2 individual per structure. Within the action area of these damaged crossing structures, given size of the structures, the degraded and reduced roosting habitat available, and based on existing WNC data, it is estimated that 1 individual per species could be present within each structure at these crossing locations.

Trees

Gray bats are not considered "tree-roosting" species. While individuals have been observed utilizing trees in rare occasions, they are generally considered a cave/structure-specific roosting species; therefore, no gray bats are expected to be roosting in trees within the action areas. Northern long-eared bats and tricolored bats roost in trees during the warmer months. Of the 30 TS Helene-related bridge projects, 20 require no tree clearing. The remaining ten projects—Henderson County structure 197, Haywood County structures 002, 011, 031, 041, 046, 062, and 219, 266, and Transylvania County structure 066—may involve tree clearing, but no project anticipates clearing more than 0.1 acres. Given the minimal amount of riparian vegetation and trees remaining within the action areas, it is unlikely that a high number of bats would be utilizing the small amount of available habitat. Based on that rationale, 1 individual per species (of northern long-eared bat or tricolored bat) could be present in trees within the action area per crossing structure location.

5. Effects of the Action

Under section 7(a)(2) of the ESA, "effects of the action" refers to the consequences, both direct and indirect, of an action on the species or critical habitat. The effects of the proposed action are added to the environmental baseline to determine the future baseline, which serves as the basis for the determination in this Opinion. Should the effects of the Federal action result in a situation that would jeopardize the continued existence of the species, we may propose reasonable and prudent alternatives that the Federal agency can take to avoid a violation of section 7(a)(2).

5.1 Appalachian Elktoe

5.1.1 Proximity of the Action, Nature of the Effect, and Disturbance Duration

Based on the description of the action and the species' biology, stressors to the Appalachian elktoe have been identified and are outlined below. The proximity of these actions will be within the waters occupied by Appalachian elktoe [within the action area] and duration of disturbance is expected during the construction phase of project work.

5.1.2 Effects Analysis

Direct Impacts – Direct effects are caused by the action and occur at the same time and place (50 CFR 402.02).

In-water Work

In-water work, such as the placement of causeways, demolition of remnant structures (if any), and placement of hard materials for new bents/structures or for bank stabilization, is likely to occur at the project locations. Installation of a temporary causeway may result in adverse effects to Appalachian elktoe and their fish host species due to the potential to bury individuals and harm fish host individuals or disrupt passage or other behavior while they are in place. Causeways also constrict river flows, which could potentially modify the hydrology and physical habitat conditions upstream and downstream of the respective fill areas. Causeways may impact hydrology and the physical habitat of the river. Rock causeway material may be washed away during extremely high flow events, which may kill, crush, or bury individuals, or otherwise degrade mussel habitat downstream of the footprint. Causeways increase the risk of stream bed and bank scour. The habitat downstream of causeways may experience higher velocities until removal. Temporary causeways may also act as physical and high-velocity barriers to fish movement. Demolition and construction may result in the loss of materials in the waterbody. While this isn't expected, given the implementation of BMPs, it is still possible. Materials that aren't effectively contained during demolition or construction could serve to crush or bury aquatic species. Similarly, the placement of hard materials within the waterbody may result in crushing or burying Appalachian elktoe.

Alteration of Flows and Channel Stability

The initial construction of a crossing structure is known to cause changes in the flow of the stream and corresponding erosive processes that can alter the adjacent habitat. Channel instability occurs when scour results in degradation or when sediment deposition leads to aggradation (Rosgen 1996). Since most structures are being replaced in the same locations, any alteration of flows and channel stability associated with the new structures are anticipated to be minor and localized. That said, altering the existing in-water structures has the potential to create flow instability which could impact downstream habitat.

Turbidity and Sedimentation

Increases in turbidity and sedimentation within the action area during demolition and construction are expected. This can occur from in-water work and from the erosion of bare soil in and surrounding the construction zone, especially during heavy rain events. Sediment accumulations of less than one inch have been shown to cause high mortality in most mussel species (Ellis 1936). Adverse effects to mussels resulting from the accumulation of sediments include smothering, disruption of feeding and breeding activity, alteration of habitat, or some combination. Sediment and erosion control (SEC) devices, when properly designed and maintained, are expected to greatly reduce influxes of turbidity; however, heavy rain events can exceed SEC capacity, resulting in sediment releases which degrade mussel habitat in the vicinity.

In summary, the in-water work, flow and channel stability alteration, and turbidity and sedimentation within the action areas are likely to adversely affect Appalachian elktoe and take is expected. Take may occur in the form of killing, wounding, or harming individuals of the species.

Accidental Spills

The inadvertent spill or discharge of toxic pollutants, such as diesel fuel, hydraulic oil, and uncured concrete into action area waterbodies could occur during demolition and construction activities and result in mortality of Appalachian elktoe. The type, timing, amount, and proximity to the river of any accidental spills would determine the magnitude of effect to Appalachian elktoe, but may result in death, disrupt feeding or reproductive behaviors, influence animals to expend energy relocating to more favorable habitats, or otherwise reduce fitness. Significant spills resulting from negligent operation are possible, but unlikely to occur. Adhering to measures outlined in the AMMs and CMs will minimize the potential for accidental spills to occur.

Indirect Impacts – Indirect effects are defined as those that are caused by the proposed action and are later in time but are still reasonably certain to occur (50 CFR 402.02).

Operational Effects
Because these projects are limited to the replacement of damaged or destroyed crossing structures and their approaches, which will not result in changes to traffic volumes, any operational effects above the existing baseline conditions are not expected to occur; or, if they do occur, are expected to be minimal.

5.2 Gray Bat, Indiana Bat, Northern Long-eared Bat, and Tricolored Bat

5.2.1 Proximity of the Action, Nature of the Effect, and Disturbance Duration for Bats

Based on the description of the action and the species' biology, stressors to gray bat, northern long-eared bat, and tricolored bat have been identified and are shared below. The proximity of these actions will be within the entire action area of each project, including the structures, waterways, riparian zone, and any existing forested areas. Duration of disturbance is expected primarily during the construction phase of project work.

5.2.2 Effects Analysis for Bats

Replacement structures: Due to the constraints associated with the TS Helene response, such as the high volume of projects and timeline unknowns, the exact designs of replacement crossing structures are not known at the time of this document. However, according to information provided by NCDOT, most replacement bridge structures are expected to be either cored slab or box beam bridges. Such precast concrete bridges may provide suitable bat roosting habitat depending on factors such as spacing between beams/girders, arrangement above any bents, and other design elements that could result in potential roosting crevices. Generally, concrete is a favorable material for roosting due to its thermal stability.

Direct Impacts – Direct effects are caused by the action and occur at the same time and place (50 CFR 402.02).

Structure Work
The demolition of remaining portions of structures, if conducted while bats are present, could result in causing bats to flush, which would expose them to risk of predation and would cause increased energy expenditure and create the need for bats to find alternative roost locations. It could also result in physical wounding or death. High-decibel percussive noises associated with demolition or construction may cause nearby roosting bats to flush, exposing them to harm and increased energy expenditure. Additionally, if non-volant pups are present, while adults may be able to flush, pups would be left behind with mortality as the likely outcome. In summary, these activities, should they occur while bats are present, are likely to adversely affect gray bat, Indiana bat, northern long-eared bat, and tricolored bat in the form of harm.

Tree Removal
The removal of suitable roost trees, if conducted while Indiana bats, northern long-eared bats or tricolored bats are present, could result in causing bats to flush, which would expose them to risk of predation and would cause increased energy expenditure and create the need for bats to find alternative roost locations. It could also result in physical wounding or death. Given the presence of alternative forested habitat near the action areas, bats could likely find trees for roosting. Harm would be expected in the increased exposure to predation from flushing and from the potential for wounding or killing when trees are felled. Additionally, if non-volant pups are present, while adults may be able to flush, pups would be left behind with mortality as the likely outcome. In summary, these activities, should they occur while bats are present, are likely to adversely affect Indiana bat, northern long-eared bat and tricolored bat in the form of

harm.

Indirect Impacts – Indirect effects are defined as those that are caused by the proposed action and are later in time but are still reasonably certain to occur (50 CFR 402.02).

If bats were utilizing structures or trees (when considering Indiana bats, northern long-eared bat, and tricolored bat) within the action areas as roost sites prior to demolition/clearing/construction and return to those roost sites to find the habitat gone or altered, the bats may then have to expend extra energy in finding alternative roosting areas. While this could occur, it is considered unlikely to result in adverse effects given that replacement structures are expected to offer suitable roosting features, and alternative forested habitat is available near the action areas.

Operational Effects
Because these projects are limited to the replacement of damaged or destroyed crossing structures and their approaches, which will not result in changes to traffic volumes, any operational effects above the existing baseline conditions are not expected to occur; or, if they do occur, are expected to be minimal.

5.3 Cumulative Effects
Cumulative effects are defined as "those effects of future state or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation" (50 CFR 402.02). Future federal actions unrelated to the proposed action are not considered because they require separate consultation pursuant to Section 7 of the ESA.

These structure replacements are not expected to induce land development or substantially change the function of the roadways. Any potential effects are anticipated to be localized and consistent with baseline land use patterns. Many private landowners and local governments are recovering from TS Helene and rebuilding homes/businesses and infrastructure. Therefore, there will likely be increased construction in WNC Counties for an undefined period of time. Some of this work will be conducted during seasons when bats are active on the landscape, potentially increasing exposure to construction-related stressors. However, other effects from these private actions cannot be determined at this time.

6. Conclusion and Jeopardy Determination
After reviewing the current status of Appalachian elktoe, gray bat, Indiana bat, northern long-eared bat, and tricolored bat, the environmental baselines for the action areas, the effects analyses and cumulative effects, the Service's biological and conference opinions are shared below.

6.1 Appalachian elktoe
It is the Service's biological opinion that the proposed actions are not likely to jeopardize the continued existence of the Appalachian elktoe. This opinion is based on the following factors: Effects of the actions occur as a result the planned replacement of Henderson County bridge 186. The species occurs in approximately 162 river miles in WNC and Eastern Tennessee (as understood pre-Helene); thus, impacts are likely to be limited to about 0.2% of the range-wide occupied habitat. Crossing structure construction activities are likely to negatively affect Appalachian elktoe within the action areas, but the incorporated conservation measures are expected to reduce impacts; notably, relocation efforts that could remove and relocate individual mussels prior to work taking place.

6.2 Gray Bat, Indiana Bat, Northern Long-eared Bat, and Tricolored Bat

It is the Service's biological and conference opinion that the proposed actions are not likely to jeopardize the continued existence of gray bat, Indiana bat, northern long-eared bat, or tricolored bat. This opinion is based on the following factors: Effects from these actions stem from the replacement of the following crossing structures and/or associated tree clearing: Henderson County structures 055, 186, 197, and 214; Haywood County structures 002, 011, 031, 041, 042, 046, 062, 219, and 266; and Transylvania County structure 066. These action areas comprise only a small amount of active season habitat within the overall ranges of these species. No changes in the long-term viability of gray bat, Indiana bat, northern long-eared bat, or tricolored bat are expected because, given the low numbers of each species which could be expected to occur at each crossing structure location (that is, an estimate of 1 individual per species per structure and an estimate of 1 Indiana bat, 1 northern long-eared bat, and 1 tricolored bat per forested area within each action area), and the occurrence range-wide of each species – gray bat in 14 states, Indiana bat in 27 states, northern long-eared bat in 37 states, and tricolored bat in 39 states as well as in portions of other North and Central American countries – only a miniscule percentage of those overall populations may be affected. Crossing structure construction activities are likely to negatively affect gray bat, Indiana bat, northern long-eared bat, and tricolored bat within the action areas but the incorporated conservation measures are expected to reduce impacts.

7. Incidental Take Statement

Section 9 of the Endangered Species ESA and Federal regulations pursuant to section 4(d) of the Endangered Species Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take "*means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct*" (16 U.S.C §1532). Harm is further defined by the Service as "*an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering*" (50 CFR 17.3). Incidental taking "*means any taking otherwise prohibited, if such taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity*" (50 CFR 17.3). Harass is defined by the Service as "*an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering*" (50 CFR 17.3). Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered to be prohibited under the Endangered Species Act, provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

7.1 Amount of Take for Appalachian Elktoe

The Service anticipates incidental take of the Appalachian elktoe may occur as a result of the demolition (if applicable) and construction of Henderson County bridge 186. Specifically, take of the species may occur as a result of 1) riverbed disturbance in the form of bent removal and causeway construction, operation, and removal, 2) the resulting river instability, scour, sediment movement, and turbidity produced from those activities, and 3) demolition and construction activities around the crossings. During these activities, individual mussels may be crushed; harmed by increases in turbidity and scour, sediment movement, or other water quality degradation; or dislocated because of physical changes in their habitat. These impacts are expected to occur primarily within the structure construction footprints, with the potential for more minor impacts to occur 100 meters upstream and 400 meters downstream of the current structure locations.

Incidental take of Appalachian elktoe is difficult to measure or detect given that 1) mussels are small, aquatic, cryptic, and generally difficult to observe, 2) finding dead or injured mussels during or following project implementation is unlikely, 3) some incidental take is in the form of non-lethal harm and not directly observable; and 4) losses may be masked by seasonal fluctuations in numbers or other causes. Given this, the estimated amount of riverbed disturbance in acres or square feet is used as a surrogate measure of take for this Opinion. Additionally, as discussed in the Environmental Baseline, no more than one Appalachian elktoe is estimated to be present within the construction footprint immediately surrounding the structures and, to the best of situational abilities, efforts will be made to relocate individuals if found prior to construction in an effort to reduce mortality.

Therefore, the incidental take permitted by the Opinion would be exceeded if either of the following occurs:

1. The construction footprint (placement of permanent fill, causeways, and associated actions) exceeds 0.35 acres (15,226 square feet) at any crossing structure construction location.
2. Take of greater than one Appalachian elktoe is observed.

Exceedance of take as defined above will represent new information that was not considered in this Opinion and shall result in reinitiation of this consultation. The incidental take of Appalachian elktoe is expected to be in the form of harm, wounding, or death.

7.2 Amount of Take for Gray Bat, Indiana Bat, Northern Long-eared Bat, and Tricolored Bat

The Service anticipates incidental take of gray, Indiana, northern long-eared, and tricolored bats may result from the demolition (if applicable) and construction of crossing structures 055, 186, 197, and 214 (Henderson County); 002, 011, 031, 041, 042, 046, 062, 219, and 266 (Haywood County); and 066 (Transylvania County), as well as any associated tree clearing. Specifically, take of these species may occur as a result of flushing, wounding, or direct mortality during demolition activities (if applicable); or, for northern long-eared bat Indiana bat, and tricolored bat, take may occur as a result of clearing suitable roost trees during times of year that these bats could be tree-roosting within the action area, which may similarly result in flushing, wounding, or direct mortality during clearing activities.

Incidental take of bats is difficult to measure or detect given that 1) the animals are small, cryptic, and generally difficult to observe, 2) finding dead or injured bats during or following project implementation is unlikely, and 3) some incidental take is in the form of non-lethal harm and not directly observable. Given this, the 1) maximum estimated tree clearing (for northern long-eared bat, Indiana bat, and tricolored bat only) and 2) number of structures replaced, are used as surrogate measures of take for this Opinion. Additionally, as discussed in the Environmental Baseline, no more than 1 individual of gray bat or 2 individuals of northern long-eared bat, Indiana bat, or tricolored bat (given structure and tree roosting) are estimated to be present within the action areas of each crossing structure.

Therefore, the incidental take permitted by the Opinion would be exceeded if:

1. *Tree clearing amount exceeds 0.10 acre at a single structure location for the crossing structures listed at the beginning of section 7.2.
2. Any more than one structure is demolished/replaced per crossing structure, as listed at the beginning of section 7.2.

**For Indiana bat, northern long-eared bat, and tricolored bat only*

Exceedance of take as defined above will represent new information that was not considered in this

Opinion and shall result in reinitiation of this consultation. The incidental take of gray bat, northern long-eared bat, and tricolored bat is expected to be in the form of harm, wounding, or death.

7.3 Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measure(s) are necessary and appropriate to minimize take of Appalachian elktoe, gray bat, Indiana bat, northern long-eared bat, and tricolored bat. These non-discretionary measures reduce the level of take associated with project activities and include only actions that occur within the action area.

1. NCDOT shall ensure that the contractor(s) understands and follows the measures listed in the "Conservation Measures", "Reasonable and Prudent Measures," and "Terms and Conditions" sections of this Opinion.
2. NCDOT shall minimize the area of disturbance within the action areas to only the area necessary for the safe and successful implementation of the proposed actions.
3. NCDOT shall monitor and document any take numbers and the surrogate measures of take and report those to the Service in a batched format.

7.4 Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the Applicant must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting and/or monitoring requirements. When incidental take is anticipated, the terms and conditions must include provisions for monitoring project activities to determine the actual project effects on listed fish or wildlife species (50 CFR §402.14(i)(3)). These terms and conditions are nondiscretionary. If this conference opinion is adopted as a biological opinion following a listing or designation, these terms and conditions will be non-discretionary.

1. NCDOT shall adhere to all measures as listed in the Avoidance and Minimization and Conservation Measures section as summarized in this Opinion.
2. The NCDOT will immediately inform the Service if the amount or extent of incidental take in the incidental take statement is exceeded.
3. When incidental take is anticipated, the Terms and Conditions must include provisions for monitoring project activities to determine the actual project effects on listed fish or wildlife species (50 CFR §402.14(i)(3)). In order to monitor the impact of incidental take, the NDOT must report the action impacts on the species to the Service according to the following:
    a. The NCDOT will submit a report each year not later than September 30 identifying, per individual project (via Service Log # and NCDOT identifiers), the following for the preceding calendar year ending December 31:
        i. Acreage of in-water impacts, if LAA for Appalachian elktoe.
        ii. Acreage and dates of tree removal (if any), if LAA for bats (excepting gray bat).
        iii. Dates of structure removal (if any), if LAA for bats.
        iv. List of implemented AMMs and BMPs [as listed in Section 2.3].

8. Conservation Recommendations

Section 7(a)(l) of the Endangered Species ESA directs Federal agencies to use their authorities to further the purposes of the Endangered Species ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

- **Eastern Hellbender**: Proximity to eastern hellbender occurrence records was noted for the following crossing structures: Henderson County structure 186, Haywood County structure 163, and Transylvania County structure 066. Ahead of work at these locations, coordinate with the NCWRC and the Service to survey for/relocate any hellbender that may be within the action area and vulnerable to impacts from project work.
- **State Species of Concern**: Close proximity to several aquatic species with North Carolina designations was noted for crossing structures: 024, 109, 186, and 198 in Henderson County; 002, 006, 042, 046,163, and 266 in Haywood County; and 164 in Transylvania County. While these species are not currently afforded legal protection under the ESA, we recommend the most protective sediment and erosion control measures possible be used in waters occupied by these species, and we encourage you to coordinate any relocation efforts of such species with the NCWRC.
- **Refueling and Materials Storage**: Refuel construction equipment outside the 100-year floodplain or at least 200 feet from all water bodies (whichever distance is greater) and protected with secondary containment. Store hazardous materials, fuel, lubricating oils, or other chemicals outside the 100-year floodplain or at least 200 feet from all water bodies (whichever distance is greater).
- **Provide Terrestrial Wildlife Passage**: Where riparian corridors suitable for wildlife movement occur adjacent to a project, a spanning structure that also spans a portion of the floodplain and provides or maintains a riprap-free level path underneath for wildlife passage would provide a safer roadway and facilitate wildlife passage. A 10-foot strip may be ideal, though smaller widths can also be beneficial. Alternatively, a "wildlife path" can be constructed with a top-dressing of finer stone (such as smaller aggregate or on-site alluvial material) to fill riprap voids if full bank plating is required. If a multi-barrel culvert is used, the low flow barrel(s) should accommodate the entire stream width and the other barrel should have sills to the floodplain level and be back-filled to provide dry, riprap-free wildlife passage and well as periodic floodwater passage.

For the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, we request notification of the implementation of any conservation recommendations.

9. Reinitiation Notice

This concludes formal consultation on the action(s) outlined in the consultation request dated December 12, 2024. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

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Archaeology

Project Tracking No.

25-01-0028

N O ARCHAEOLOGICAL SURVEY REQUIRED FORM

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

PROJECT INFORMATION

Project No:	**Bridge 62**	*County:*	Haywood
WBS No:	DF18314.2044210	*Document:*	Federal CE
Federal Aid No:	na	*Funding:*	☐ State ☒ Federal
Federal Permit Required?	☒ Yes ☐ No	*Permit Type:*	**FHWA, USACE, & FEMA**

Project Description:

The project calls for the replacement of Bridge No. 62 on SR 1500 (Poplar Cove Road) over Cove Creek in Haywood County. The archaeological Area of Potential Effects (APE) for the project is defined as a 330-foot (100.59 m) long corridor running 200 feet (60.96 m) east and 130 feet (39.62 m) west along Poplar Cove Road from the center of Bridge No. 62. The corridor is approximately 90 feet (27.43 m) wide extending 60 feet (18.29 m) to the north and 30 feet (9.14 m) to the south from the road's centerline. In all, the project area encompasses approximately 0.6 acres.

Federal funds and permits are anticipated. Therefore, this archaeological review was conducted pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance (36 CFR Part 800).

SUMMARY OF CULTURAL RESOURCES REVIEW

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

Bridge No. 62 is located north of Waynesville in Haywood County, North Carolina, and plotted near the center of the Fines Creek USGS 7.5' topographic quadrangle (Figure 1).

A site file search was conducted using data from the Office of State Archaeology (OSA) on February 10, 2025. No known archaeological sites are within the project's APE, and only two sites (31HW445 and 31HW447) are within a mile of the bridge. According to the North Carolina State Historic Preservation Office online database (HPOWEB 2025), there are no known historic architectural resources within the APE that may yield intact archaeological deposits. Topographic maps, USDA soil survey maps, aerial photographs (NC One Map), historic maps (North Carolina maps website), and Google Street View application were further examined for information on environmental and cultural variables that may have contributed to precontact or historic settlement within the project limits and to assess the level of ground disturbance.

Bridge No. 62 and Poplar Cove Road are situated roughly east to west with the NC 209 (Betsys Gap Road) intersection at the western end of the APE (Figure 2). Cove Creek flows west into Fines Creek and is part of the French Broad basin. The APE resides on a floodplain south of the creek and footslope to the north. The footslope is lightly wooded with secondary growth, while the floodplain consists of farmland. Overall, ground disturbance is heavy. The APE in the floodplain is occupied by a wide gravel drive leading to outbuildings (barn, garage, and shed) and a ditch alongside the road. The garage and shed are recent addition having appeared aerial images within the last two years. Undeveloped pasture within the APE at the eastern end covers only a minimal extent. Lastly, the footslope to the north has been cut for NC 209 with fill deposited downslope to support the road

The USDA soil survey for Haywood County shows the APE is covered entirely by the Cullowhee-Nikwasi complex (CxA), but this is incorrect (USDA NRCS 2025) (see Figure 2). The Cullowhee-Nikwasi complex encompassed only the floodplain to the south. This series has a slope of 2 percent or less, frequently flooded, and somewhat poorly drained. Due to being persistently wet, this series is not likely to yield evidence of an early occupation. Although the northern footslope is also identified as the Cullowhee-Nikwasi complex, it is more likely made up of the neighboring Saunook loam (SdD and/or the Edneyville-Chestnut complex (EdF) based upon the LIDAR contour image. These are well drained soils but steeply sloped at 15 to 95 percent. A slope of 15 percent or more is not likely to contain buried archaeological deposits. As a result, subsurface testing is not required on any of the soil types.

No previous archaeological investigations have been conducted within or adjacent to the APE and only two sites (31HW445 and 31HW447) have been recorded within a mile. Information on both sites is limited to the site forms. They date to the precontact periods yielding lithic material in a rural floodplain setting. While more sites are likely in the region, the current project area will not provide any significant data due to the limited extent of the APE and the poor quality of the soils.

Most early maps provide only general details concerning the region illustrating just major roads and settlements. An approximate location for the project was first identified on the 1894 USGS Asheville topographic map (Figure 3). While this map shows no structures, it does plot a road running east to west on the southside of Cove Creek. This is an early route for NC 209. The subsequent 1901 USGS Asheville map identifies more details including a crossing near the current bridge site and a structure likely at the site of the current barn (Figure 4). This map also mistakenly labels Cove Creek as Fines Creek. The 1925 *Soil Survey Map for Haywood County* illustrates a similar picture; however, the structure is replaced by another building on the northside of the road (Jurney et al. 1925) (Figure 5). Finally, the 1938 *North Carolina Highway Map for Haywood County* displays the current road configuration with NC 209 to the north and Poplar Cove Road following its existing alignment (NCSHPWC 1938) (Figure 6). Plotted nearby structures appear to correspond to present structures. In general, the maps suggest that it is unlikely that any significant historic resources will be encountered.

Brief Explanation of why the available information provides a reliable basis for reasonably predicting that there are no unidentified historic properties in the APE:

The defined archaeological APE for the proposed replacement of Bridge No. 62 is situated on a steep footslope to the north of Cove Creek and a wet floodplain to the south. Ground disturbance is severe with fill deposited along the slope, while a gravel drive covers most of the floodplain. It is very unlikely that intact and significant archaeological resources are present due to the poor quality of soils and the limited extent of the APE. As long as impacts to the subsurface occur within the APE, no further archaeological work is recommended for the replacement of Bridge No. 62 in Haywood County. If construction should affect subsurface areas beyond the defined APE, further archaeological consultation might be necessary.

This project falls within a North Carolina County in which the Catawba Indian Nation, the Eastern Band of Cherokee Indians, the Cherokee Nation, the United Keetoowah Band of Cherokee Indians, and Muscogee (Creek) Nation have expressed an interest. We recommend that you ensure that this documentation is forwarded to the tribe using the process described in the current NCDOT Tribal Protocol and PA Procedures Manual.

Project Tracking No.

25-01-0028

SUPPORT DOCUMENTATION

See attached: ☒ Map(s) ☐ Previous Survey Info ☐ Photos ☐ Correspondence
Other:

FINDING BY NCDOT ARCHAEOLOGIST: *NO ARCHAEOLOGY SURVEY REQUIRED*

February 12, 2025

C. Damon Jones
NCDOT ARCHAEOLOGIST II

Date

REFERENCES CITED

HPOWEB

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United States Geological Survey (USGS)

1894 Asheville, North Carolina-Tennessee 30 minute quadrangle map.

1901 Asheville, North Carolina-Tennessee 30 minute quadrangle map.

2016 Fines Creek, North Carolina 7.5 minute quadrangle map.

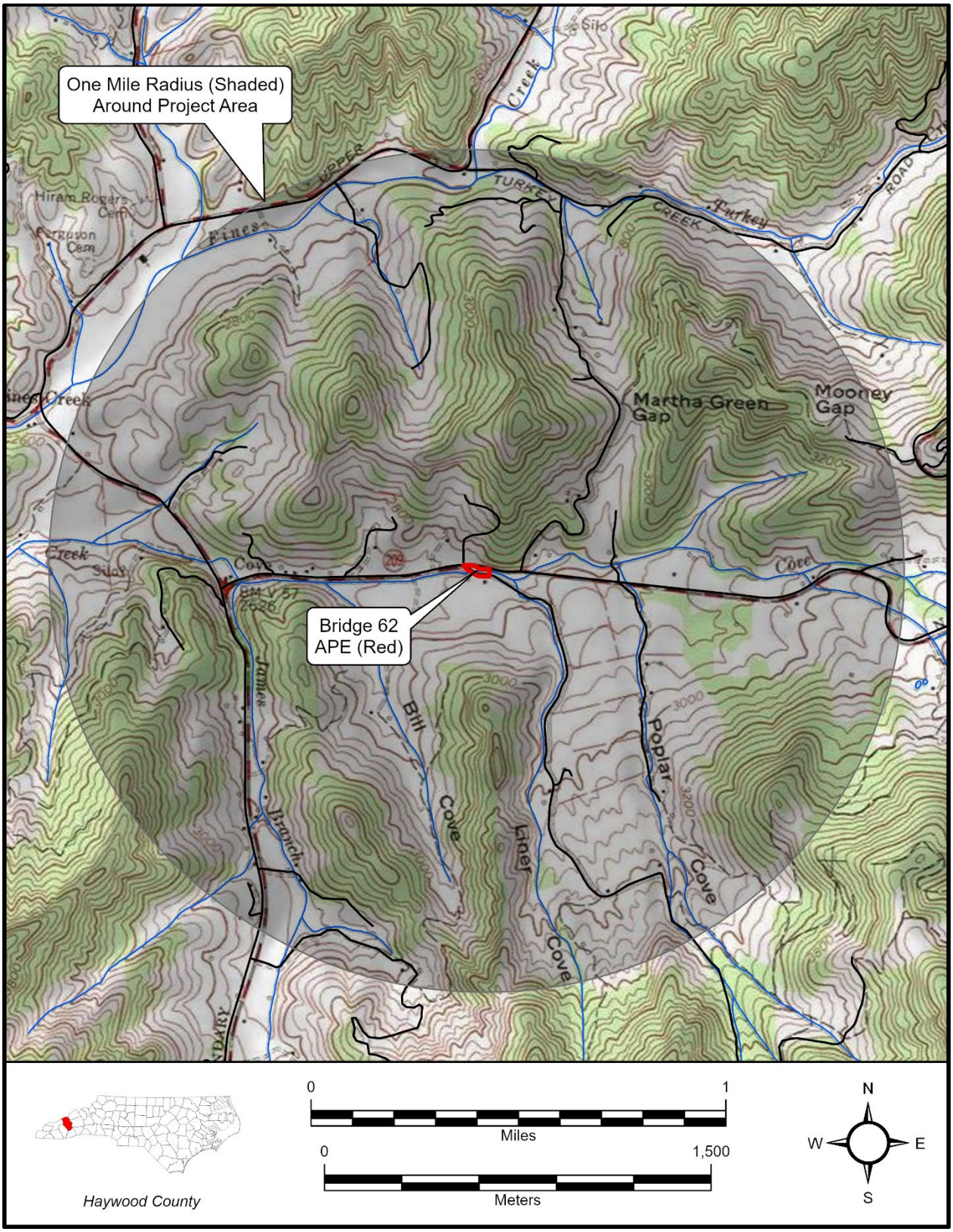

Figure 1. Topographic Setting of the Project Area, Fines Creek (2016), NC USGS 7′5 Topographic Quadrangle.

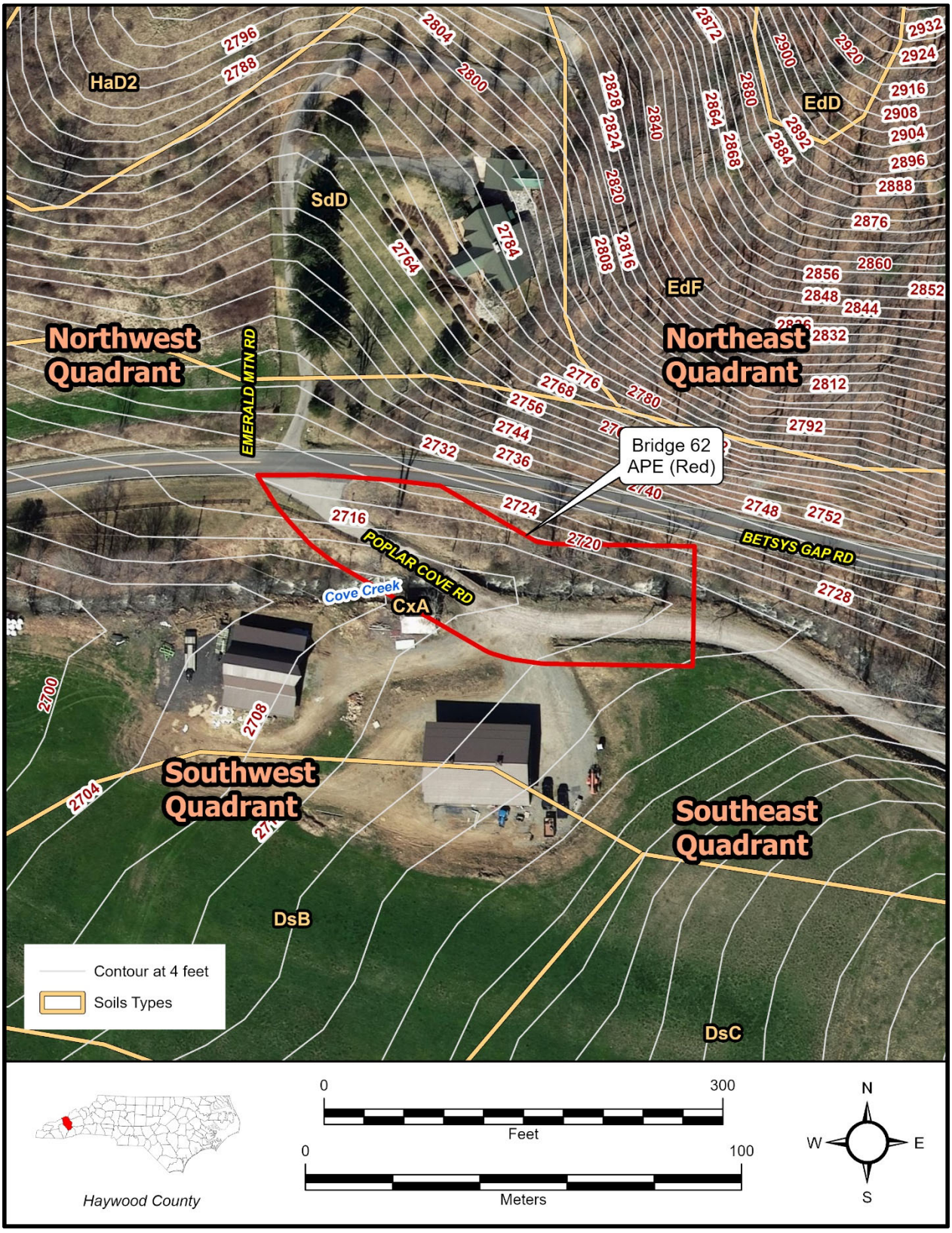

Figure 2. Aerial photograph of the APE showing development, contours, and soils.

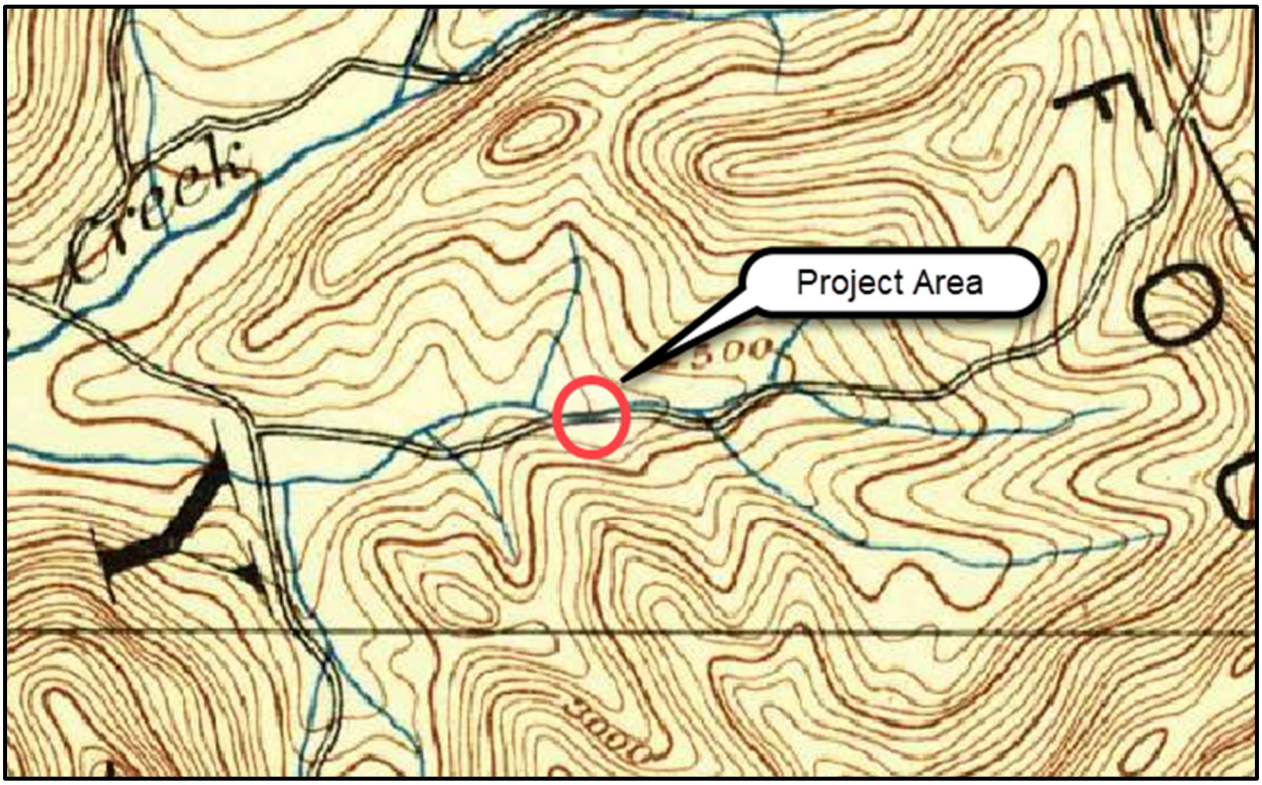

Figure 3. The 1894 USGS Asheville topographic map showing the location of the project area.

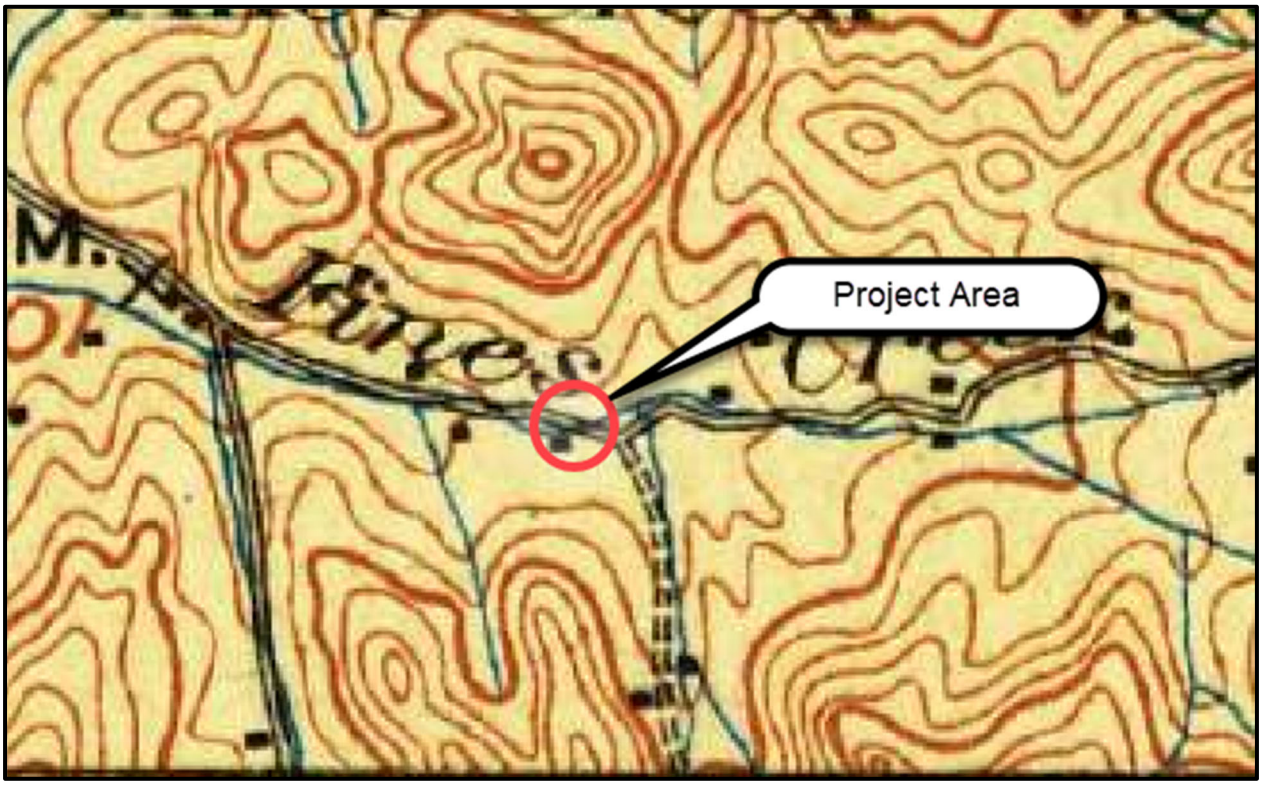

Figure 4. The 1901 USGS Asheville topographic map showing the location of the project area.

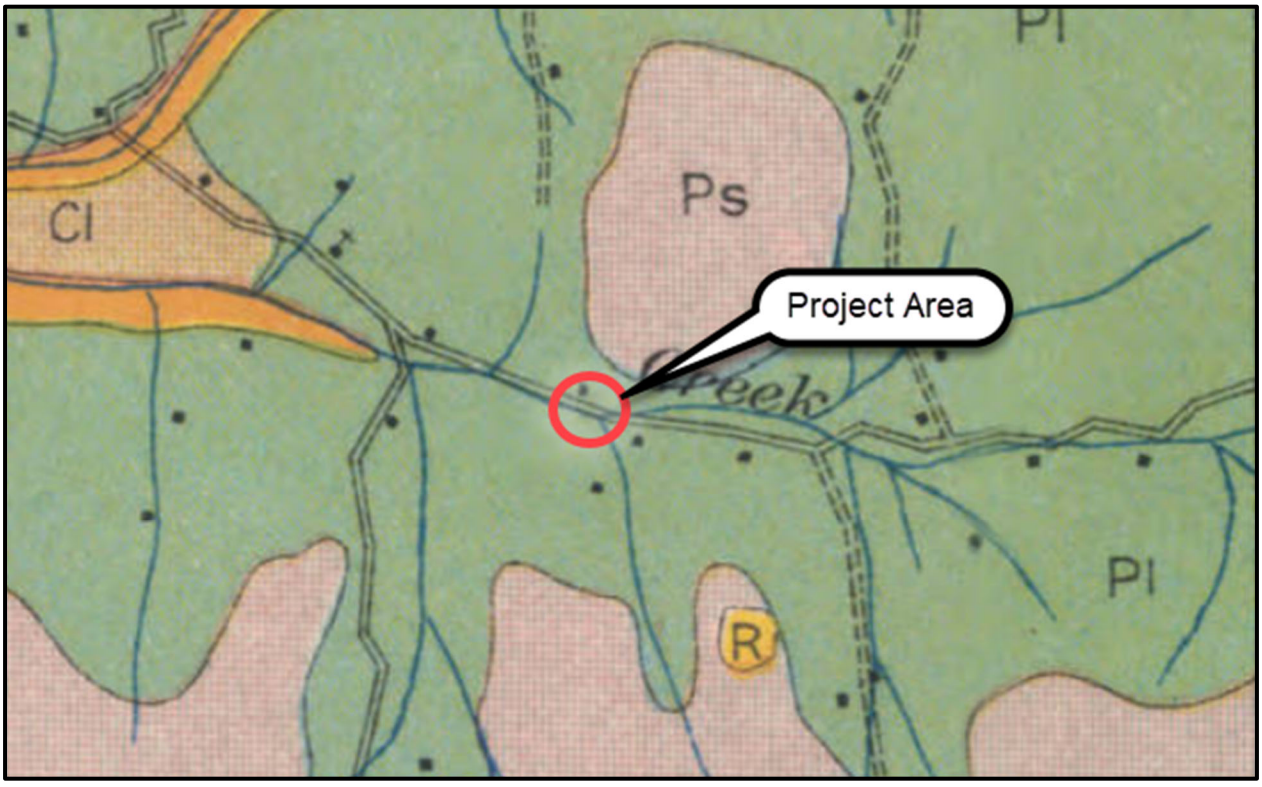

Figure 5. The 1925 *Soil Survey Map for Haywood County* showing the location of the project area.

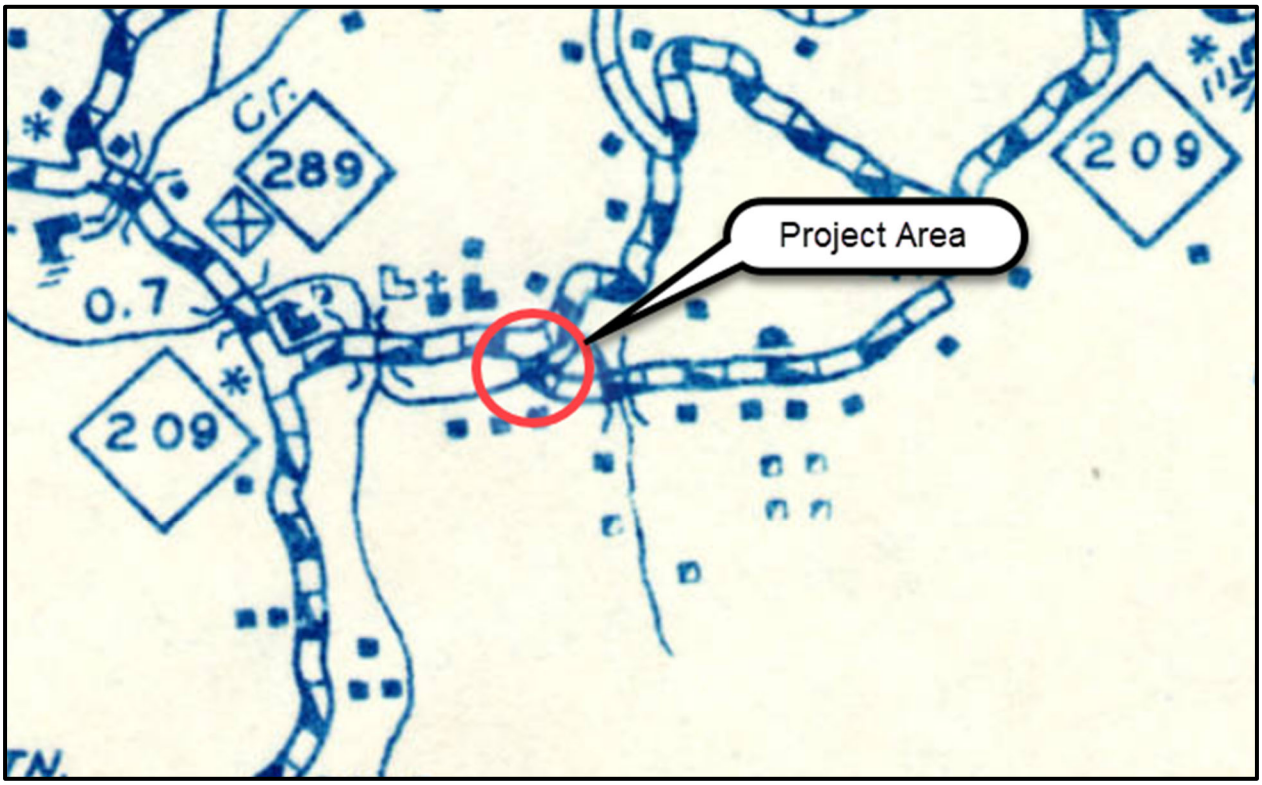

Figure 6. The 1938 *North Carolina Highway Map for Haywood County* showing the location of the project area.

Historic Architecture & Landscapes

Project Tracking No. (Internal Use)

25-01-0028

HISTORIC ARCHITECTURE AND LANDSCAPES
NO SURVEY REQUIRED FORM

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

PROJECT INFORMATION

Project No:		***County***:	Haywood
WBS No.:	DF18314.2044210	***Document Type***:	FCE
Fed. Aid No:		***Funding***:	☐ State ☒ Federal
Federal Permit(s):	☒ Yes ☐ No	***Permit Type(s)***:	USACE
Project Description: Replace Bridge No. 62 on SR 1500 (Poplar Cove Road) over Cove Creek.			

SUMMARY OF HISTORIC ARCHITECTURE AND LANDSCAPES REVIEW

Description of review activities, results, and conclusions:
A review of HPOGIS web service was undertaken on February 7, 2025. Based on this review, there are no existing NR, DE, LL, SL, or SS properties in the project area. There are no properties over 50 years of age in the APE (area of Potential Effects). No Survey is required.

Why the available information provides a reliable basis for reasonably predicting that there are no unidentified significant historic architectural or landscape resources in the project area:
HPOGIS and County Tax Data provide reliable information regarding structures in the APE. These combined utilities are considered valid for purposes of determining the likelihood of historic resources being present.

SUPPORT DOCUMENTATION

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

FINDING BY NCDOT ARCHITECTURAL HISTORIAN

Historic Architecture and Landscapes -- NO SURVEY REQUIRED

Shelby Reap **February 7, 2025**

NCDOT Architectural Historian Date

Project APE

Bridge No. 62

Tribal Coordination

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

J.R. "JOEY" HOPKINS
SECRETARY

February 18, 2025

Muscogee (Creek) Nation
PO BOX 580
Okmulgee, OK 74447
section106@muscogeenation.com

Elizabeth Toombs
Cherokee Nation
Tribal Historic Preservation Officer
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Roger Cain
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rcain@ukb-nsn.gov

Dr. Wenonah Haire (via mail)
Catawba Indian Nation
Tribal Historic Preservation Office
1536 Tom Steven Road
Rock Hill, SC 29730

Russell Townsend
Eastern Band of Cherokee Indians
Tribal Historic Preservation Office
2077 Governors Island Road
Bryson City NC 28713
russtown@nc-cherokee.com

Subject: DF18314.2044210 – Replacement of Bridge 62 Haywood County

Dear Tribal Nations:

The North Carolina Department of Transportation is starting the project development, environmental, and engineering studies to replace Bridge 62 over the Cove Creek on SR 1500 (Cove Creek Road) in Haywood County. The bridge was destroyed during Hurricane Helene. The Federal Highway Administration (FHWA) is the lead federal agency for compliance with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA) and a permit is anticipated under the Section 404 Process with the USACE. The project vicinity map is attached. The coordinates of this project are approximately 35.676325, -82.932239.

We would appreciate any information you might have that would be helpful in evaluating potential environmental impacts of the project including recommendation of alternatives to be studied. Your comments may be used in the preparation of a NEPA Environmental Document. An archaeological screening was performed of the APE. An archaeology survey was not required. See the attached report.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
BUSINESS UNIT NAME
345 TOOT HOLLOW ROAD
BRYSON CITY, NC 28713

Telephone: (828) 488-0902
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
345 TOOT TOLLOW ROAD
BRYSON CITY. NC 28713

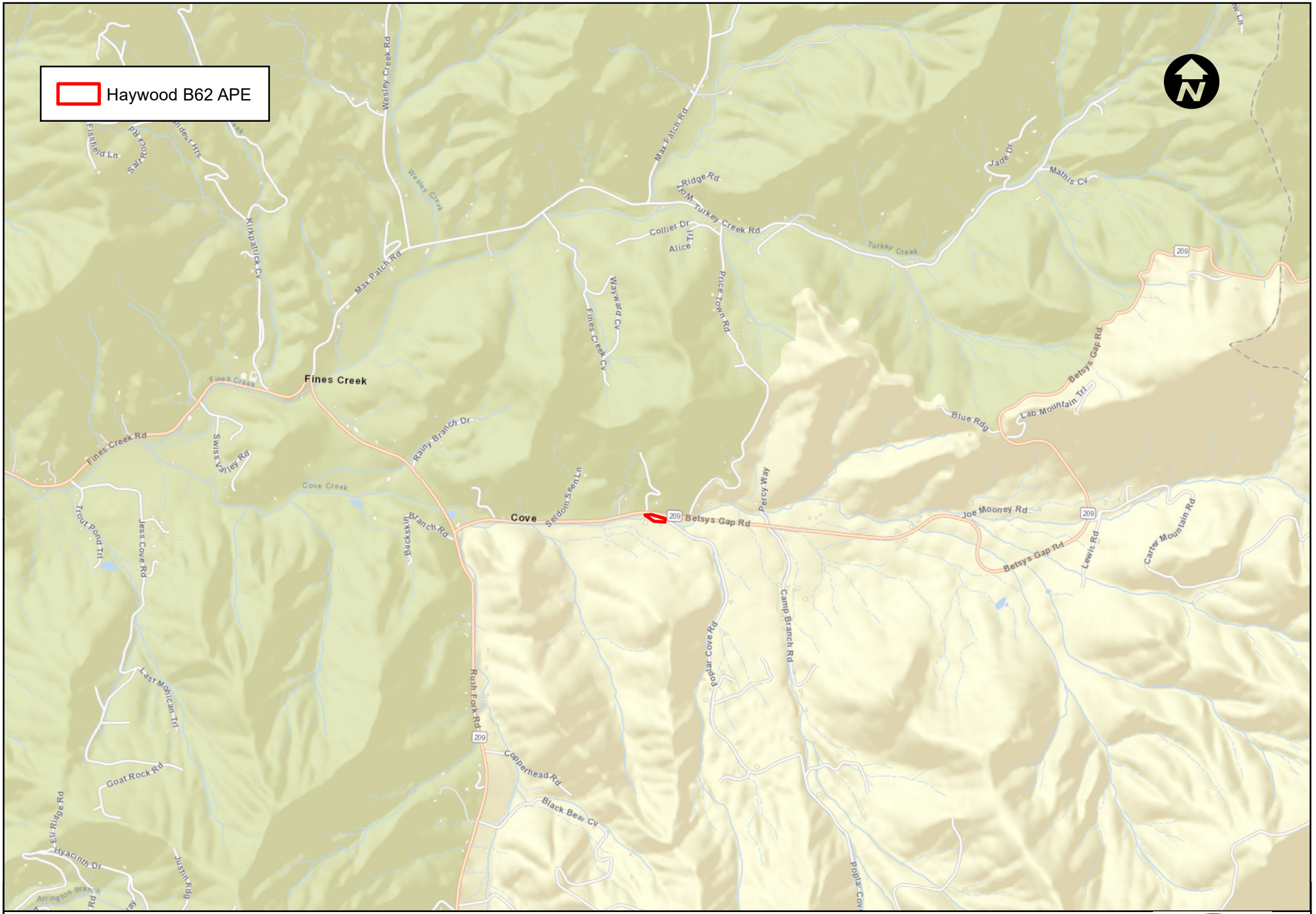
In accordance with Section 106 of the NHPA, we also request that you inform us of any historic properties of traditional religious or cultural importance that you are aware of that may be affected by the proposed project. Be assured that, in accordance with confidentiality and disclosure stipulations in Section 304 of the NHPA, we will maintain strict confidentiality about certain types of information regarding historic properties.

Please respond by **March 19, 2025** so that your comments can be used in the scoping of this project. If you have any questions concerning this project, or would like any additional information, please contact me at pjbreedlove@ncdot.gov.

Sincerely,

Patrick J. Breedlove

Patrick J. Breedlove
Division 14 PDEA Engineer



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VICINITY MAP

DF18314.2044210
Bridge 430062 Replacement - Hurricane Helene
Haywood County

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

100 50 0 100 Feet

VICINITY MAP

DF18314.2044210
Bridge 430062 Replacement - Hurricane Helene
Haywood County

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

Project Tracking No.

25-01-0028

N O ARCHAEOLOGICAL SURVEY REQUIRED FORM

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PROJECT INFORMATION

Project No:	**Bridge 62**	*County:*	Haywood
WBS No:	DF18314.2044210	*Document:*	Federal CE
Federal Aid No:	na	*Funding:*	☐ State ☒ Federal
Federal Permit Required?	☒ Yes ☐ No	*Permit Type:*	**FHWA, USACE, & FEMA**

Project Description:

The project calls for the replacement of Bridge No. 62 on SR 1500 (Poplar Cove Road) over Cove Creek in Haywood County. The archaeological Area of Potential Effects (APE) for the project is defined as a 330-foot (100.59 m) long corridor running 200 feet (60.96 m) east and 130 feet (39.62 m) west along Poplar Cove Road from the center of Bridge No. 62. The corridor is approximately 90 feet (27.43 m) wide extending 60 feet (18.29 m) to the north and 30 feet (9.14 m) to the south from the road's centerline. In all, the project area encompasses approximately 0.6 acres.

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

Bridge No. 62 is located north of Waynesville in Haywood County, North Carolina, and plotted near the center of the Fines Creek USGS 7.5' topographic quadrangle (Figure 1).

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Brief Explanation of why the available information provides a reliable basis for reasonably predicting that there are no unidentified historic properties in the APE:

The defined archaeological APE for the proposed replacement of Bridge No. 62 is situated on a steep footslope to the north of Cove Creek and a wet floodplain to the south. Ground disturbance is severe with fill deposited along the slope, while a gravel drive covers most of the floodplain. It is very unlikely that intact and significant archaeological resources are present due to the poor quality of soils and the limited extent of the APE. As long as impacts to the subsurface occur within the APE, no further archaeological work is recommended for the replacement of Bridge No. 62 in Haywood County. If construction should affect subsurface areas beyond the defined APE, further archaeological consultation might be necessary.

This project falls within a North Carolina County in which the Catawba Indian Nation, the Eastern Band of Cherokee Indians, the Cherokee Nation, the United Keetoowah Band of Cherokee Indians, and Muscogee (Creek) Nation have expressed an interest. We recommend that you ensure that this documentation is forwarded to the tribe using the process described in the current NCDOT Tribal Protocol and PA Procedures Manual.

Project Tracking No.

25-01-0028

SUPPORT DOCUMENTATION

See attached: ☒ Map(s) ☐ Previous Survey Info ☐ Photos ☐ Correspondence
Other:

FINDING BY NCDOT ARCHAEOLOGIST: *NO ARCHAEOLOGY SURVEY REQUIRED*

February 12, 2025

C. Damon Jones
NCDOT ARCHAEOLOGIST II

Date

REFERENCES CITED

HPOWEB

2025 North Carolina State Historic Preservation Office GIS Web Service. https://nc.maps.arcgis.com/apps/webappviewer/index.html?id=79ea671ebdcc45639f0860257d5f5ed7. Accessed February 10, 2025.

Jurney, Robert Campbell, William Lee, Samuel Davidson, and William Davis

1925 *Soil Map for Haywood County, North Carolina*. U.S. Department of Agriculture, Government Printing Office, Washington D.C. On file at North Carolina Collections, University of North Carolina, Chapel Hill.

North Carolina State Highway and Public Works Commission (NCSHPWC)

1938 *North Carolina State Highway Map for Haywood County, North Carolina*. On file at North Carolina Collections, University of North Carolina, Chapel Hill.

United States Department of Agriculture Natural Resources Conservation Services (USDA NRCS)

2025 Haywood County Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/app/. Accessed February 10, 2025.

United States Geological Survey (USGS)

1894 Asheville, North Carolina-Tennessee 30 minute quadrangle map.

1901 Asheville, North Carolina-Tennessee 30 minute quadrangle map.

2016 Fines Creek, North Carolina 7.5 minute quadrangle map.

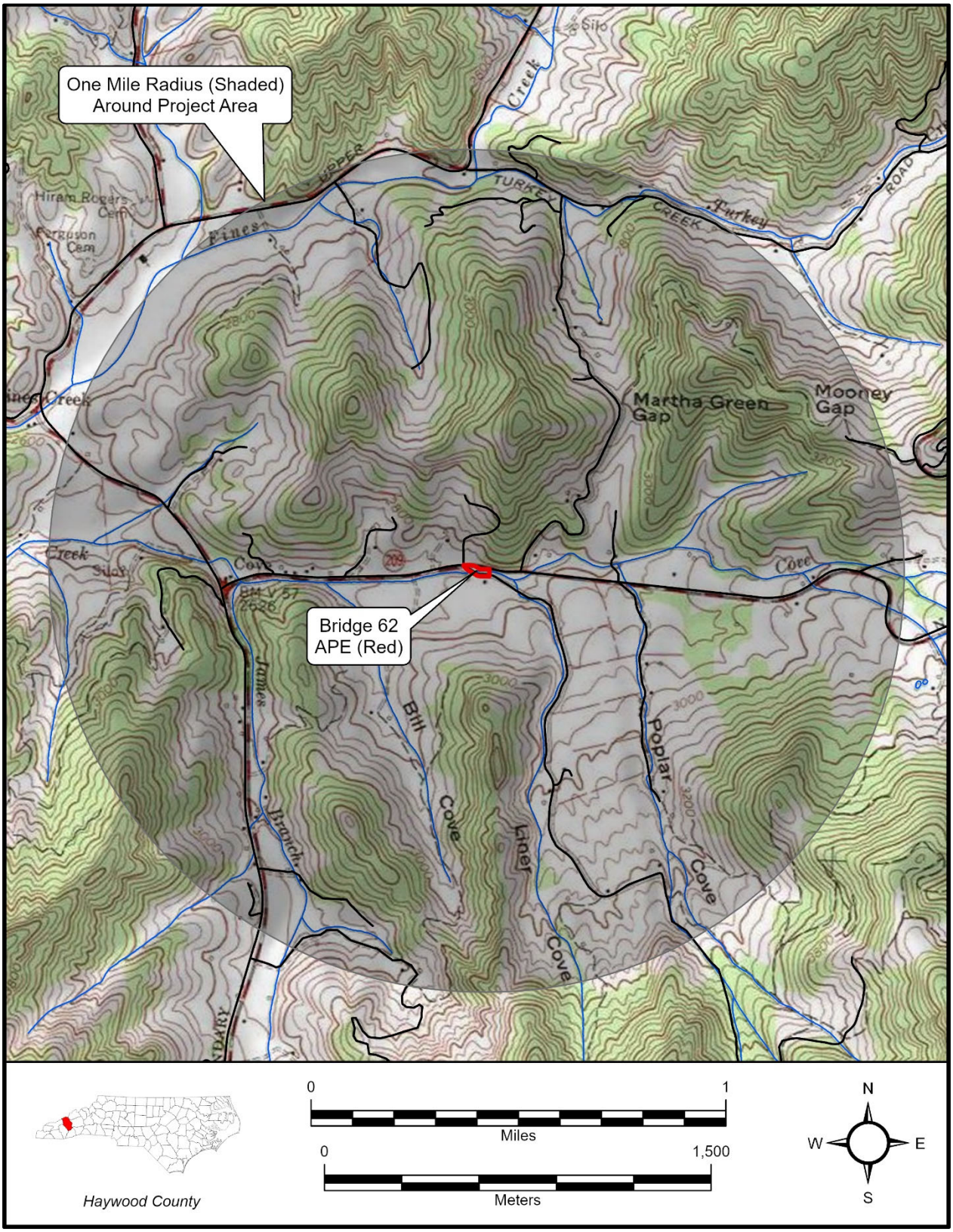

Figure 1. Topographic Setting of the Project Area, Fines Creek (2016), NC USGS 7′5 Topographic Quadrangle.

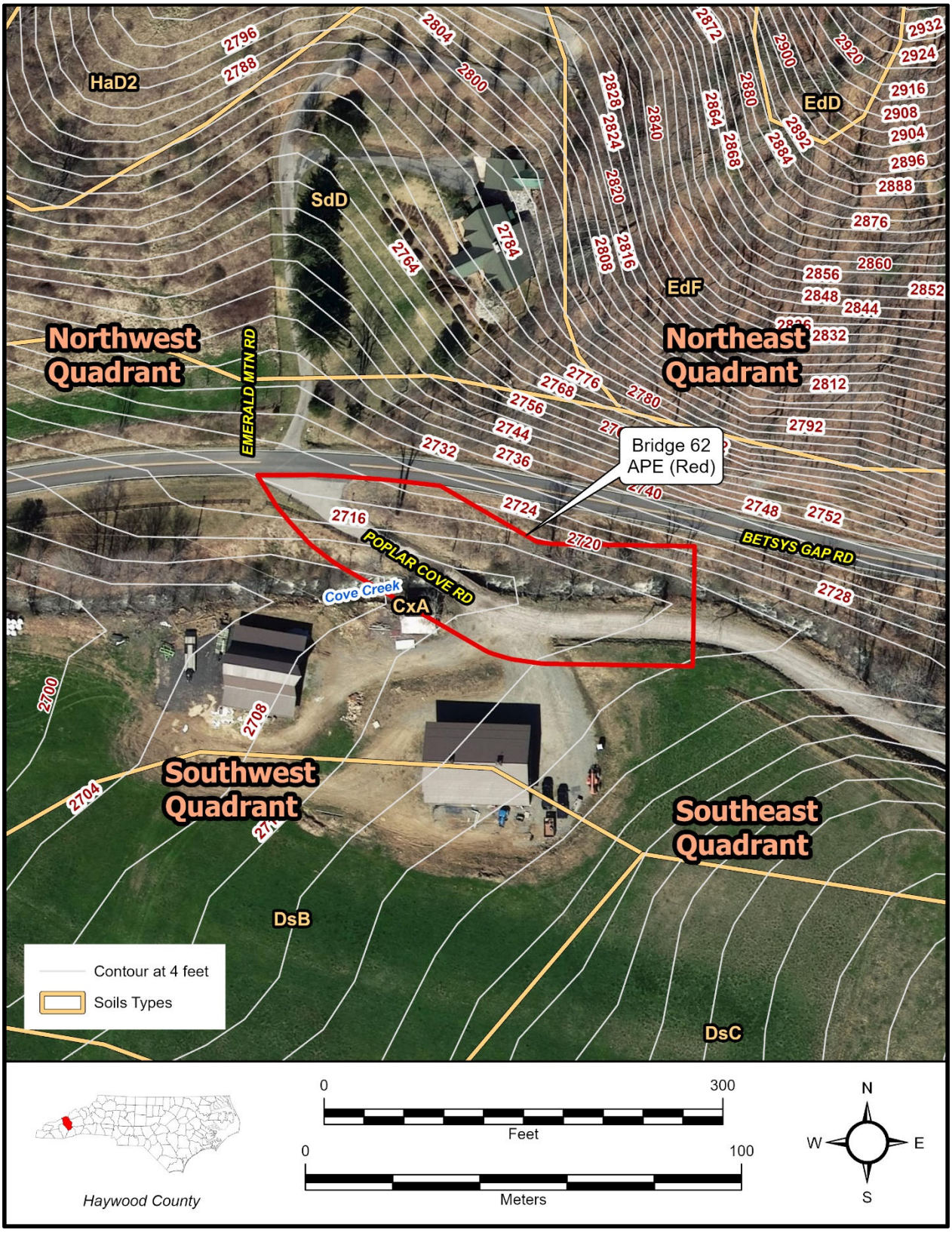

Figure 2. Aerial photograph of the APE showing development, contours, and soils.

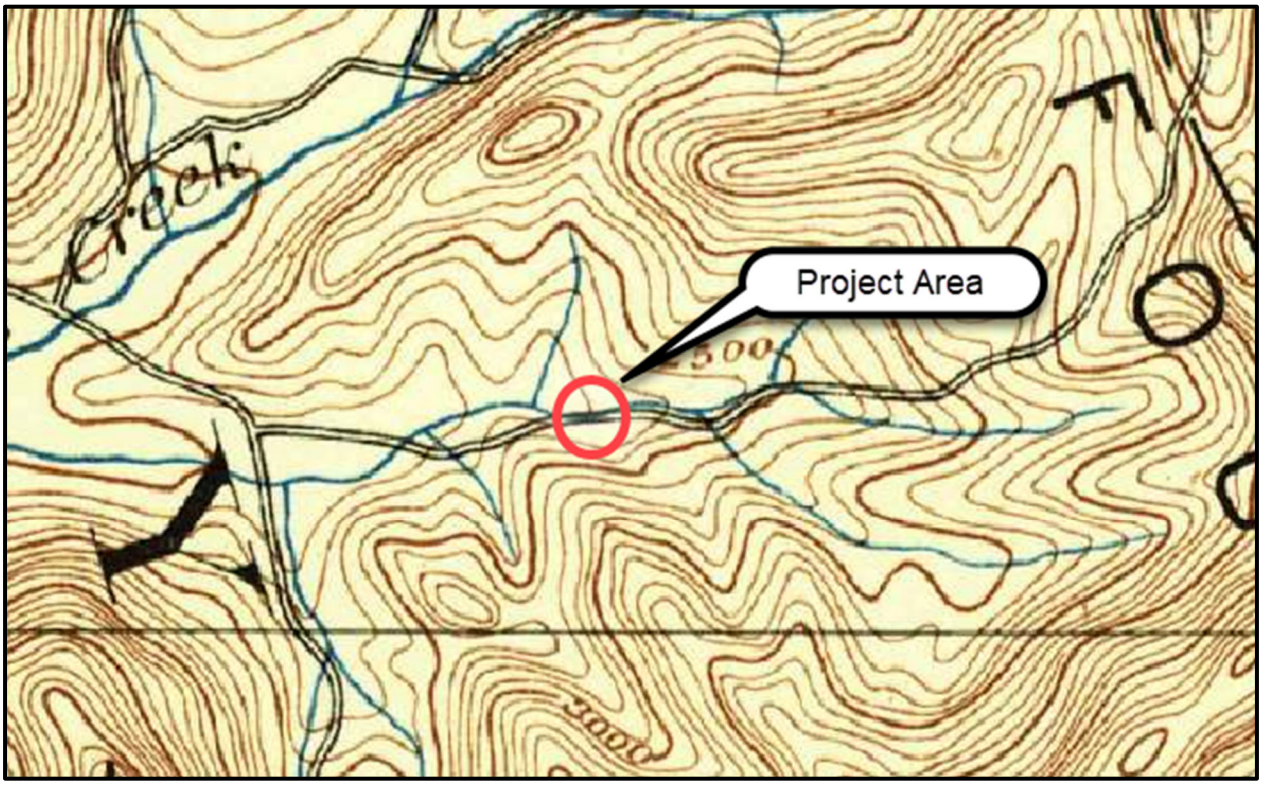

Figure 3. The 1894 USGS Asheville topographic map showing the location of the project area.

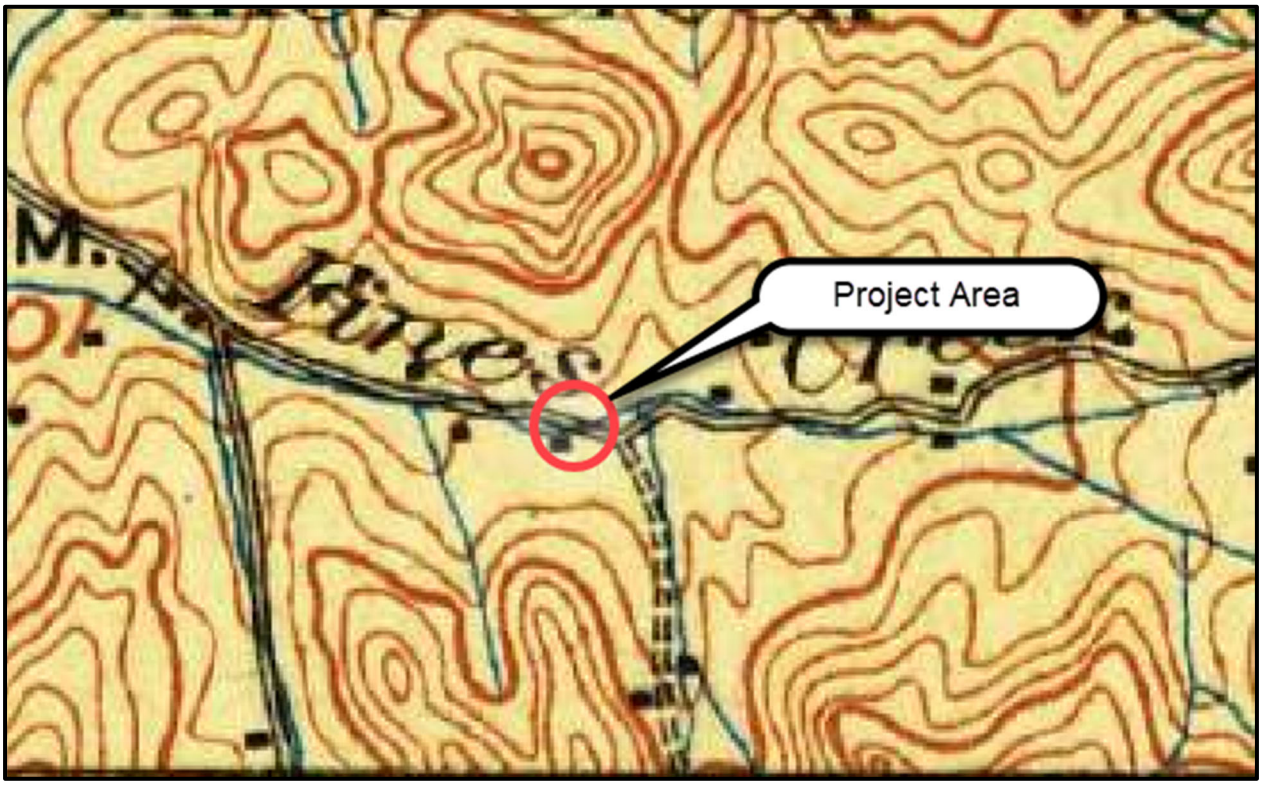

Figure 4. The 1901 USGS Asheville topographic map showing the location of the project area.

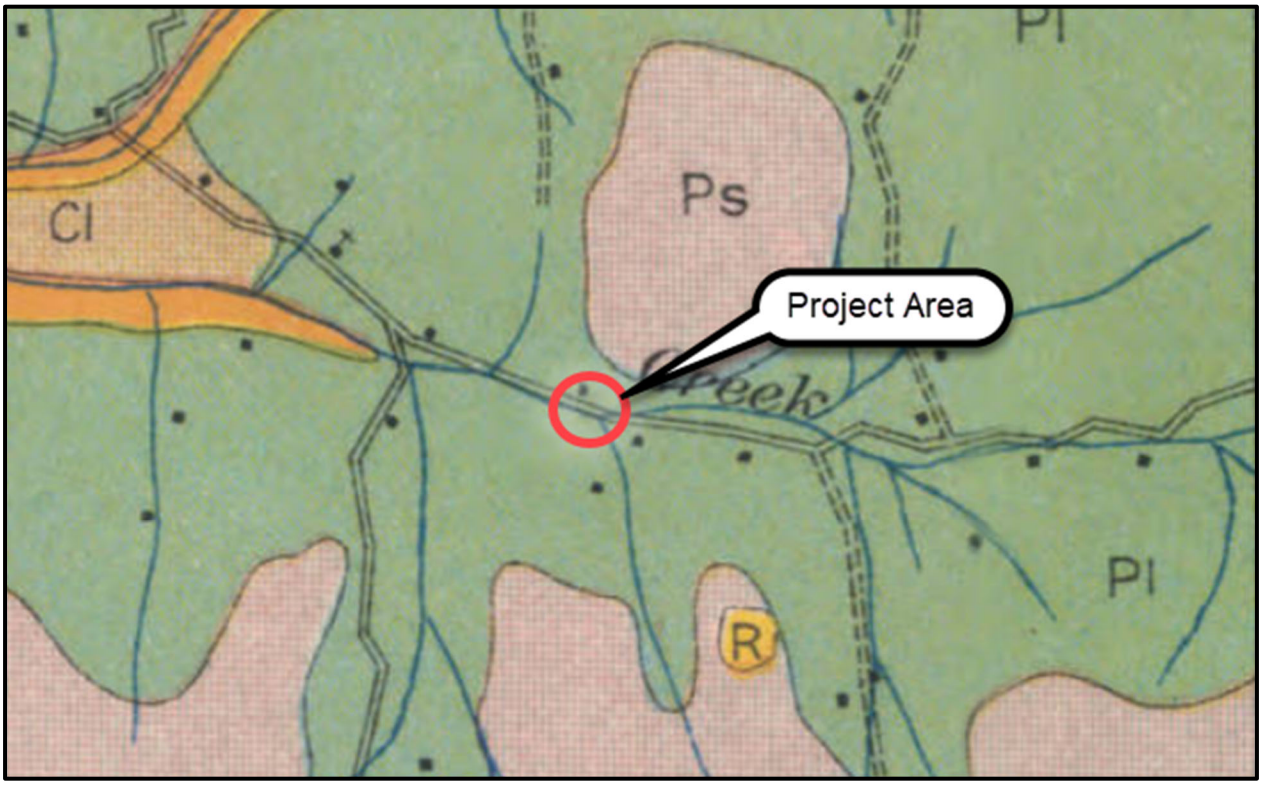

Figure 5. The 1925 *Soil Survey Map for Haywood County* showing the location of the project area.

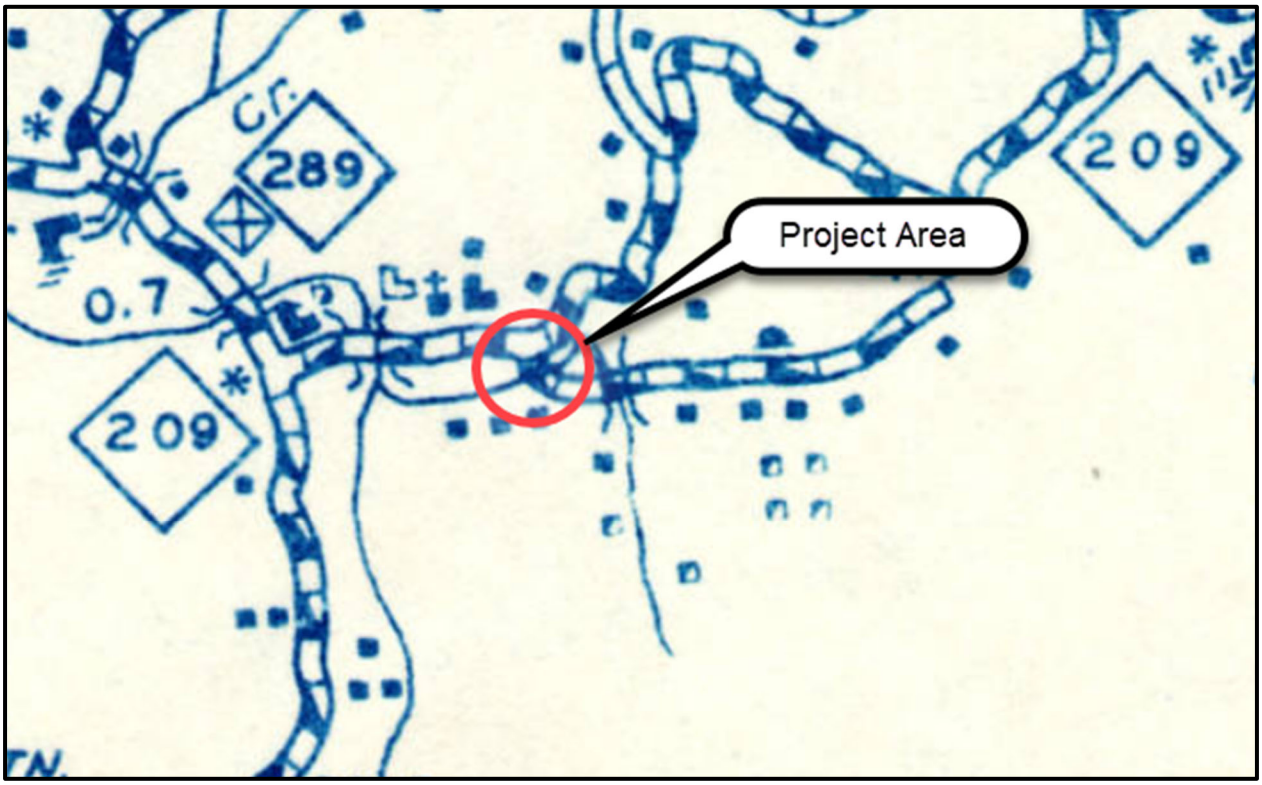

Figure 6. The 1938 *North Carolina Highway Map for Haywood County* showing the location of the project area.

Catawba Indian Nation
Tribal Historic Preservation Office
1536 Tom Steven Road
Rock Hill, South Carolina 29730

Office 803-328-2427

March 7, 2025

Attention: Patrick Breedlove
NC Department of Transportation
345 Toot Hollow Road
Bryson City, NC 28713

Re. THPO #	TCNS #	Project Description
2025-193-118		DF18314.2044210 – Replacement of Bridge 62 Haywood County

Dear Mr. Breedlove,

The Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the proposed project areas. **However, the Catawba are to be notified if Native American artifacts and / or human remains are located during the ground disturbance phase of this project.**

If you have questions, please contact Caitlin Rogers at 803-328-2427 ext. 226, or e-mail Caitlin.Rogers@catawba.com.

Sincerely,

Caitlin Rogers for

Wenonah G. Haire
Tribal Historic Preservation Officer

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Chuck Hoskin Jr.
Principal Chief
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Bryan Warner
Deputy Principal Chief
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March 18, 2025

Patrick Breedlove
North Carolina Department of Transportation
Division 14 Bridge Management
345 Toot Hollow Rd.
Bryson City, NC 28713

Re: DF18314.2044210 - Replacement of Bridge 62

Dear Patrick Breedlove:

The Cherokee Nation (Nation) is in receipt of your correspondence about **DF18314.2044210**, and appreciates the opportunity to provide comment upon this project. This communication is intended for government-to-government consultation with a sovereign federally recognized Tribal Nation. Information received in consultation will be deemed confidential unless explicit consent is provided by the Nation.

The Nation maintains databases and records of cultural, historic, and pre-historic resources in this area. Our Historic Preservation Office (Office) reviewed this project, cross referenced the project's legal description against our information, and found no instances where this project intersects or adjoins such resources. Thus, the Nation does not foresee this project imparting impacts to Cherokee cultural resources at this time.

However, the Nation requests that the North Carolina Department of Transportation (NCDOT) halt all project activities immediately and re-contact our Office for further consultation if items of cultural significance are discovered during the course of this project. Additionally, the Nation requests that the NCDOT conduct appropriate inquiries with other pertinent Historic Preservation Offices regarding historic and prehistoric resources not included in the Nation's databases or records.

If you require additional information or have any questions, please contact me at your convenience. Thank you for your time and attention to this matter.

Wado,

Elizabeth Toombs

Elizabeth Toombs, Tribal Historic Preservation Officer
Cherokee Nation Tribal Historic Preservation Office
elizabeth-toombs@cherokee.org
918.453.5389