STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

May XX, 2026

DANIEL H. JOHNSON
SECRETARY

U. S. Army Corps of Engineers
Water Resources Development Act (WRDA)
Transportation Permitting Branch

NC Division of Water Resources
Transportation Permitting Branch

ATTN: NCDOT Coordinator NCDOT Coordinator

Subject: Application for: **Section 404 Permit and 401 Water Quality Certification** as the result of **Hurricane Helene** for the **Replacement of Bridge 154** over **Cane Creek** on SR 1188 (Dale Hill Road) in **Mitchell County**, Division 13, WBS DF18313.2061259.

Dear NCDOT Coordinators:

The North Carolina Department of Transportation (NCDOT) proposes the following project as the result of damage caused by Hurricane Helene in September 2024: Restoration of Bridge 154 over Cane Creek.

Approvals Requested:

404 Nationwide Permit 3. Notification required due to 1) greater than 0.008 acre of impacts other than temporary dewatering in a Designated Trout Watershed, and 2) a Biological Conclusion other than "No Effect."

401 General Certification 8562 Written authorization not required/ for the record only.

FEMA is the lead federal agency for this project.

Brief Damage Summary and Current Temporary/ Emergency Structure:

The previous single-span, 51-foot-long bridge was completely washed away by the storm.
A temporary rail-car bridge is currently serving SR 1188 on the location of the previous bridge.

Proposed Replacement:
A new single span, 70-foot-long bridge will replace the damaged bridge, in the same location as the previous bridge.
An off-site detour will be used during construction.

Avoidance and Minimization:
-The bridge length will be increased providing a greater hydraulic opening and connectivity.
-The proposed bridge will have no direct discharge into the creek.
-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.

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
Site 1 **Cane Creek**	Maintenance Exemption	--	--	--	--
	Non-Notifying	--	--	--	--
	Notification Required (Not After the fact)	--	--	16 lf 0.06	Temporary dikes are required to dewater the banks to allow for upland excavation to accommodate the longer bridge, as well as to remove the existing temporary bridge.
		--	60 lf < 0.01 ac	--	Bank stabilization is required to stabilize the banks under the new structure.
	Notification Required (After the fact)	--	--	--	--
	Totals:	--	**60 lf** **< 0.01 ac**	**16 lf** **0.06 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.

Bridge Before:

Bridge after:

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

Common Name	Habitat Present	Survey Dates	Proposed Biological Conclusion	FWS Concurrence Remarks
Gray bat	Yes	n/a	May Affect, Likely to Adversely Affect	Attached
Tricolored bat	Yes	n/a	May Affect, Likely to Adversely Affect	Attached
Virginia spiraea	No	5/28/2025	No Effect	n/a
Bog Turtle[2]	n/a	n/a	n/a	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 Similarity of Appearance (Threatened); A species that is threatened due to similarity of appearance with another listed species and is listed for its protection.
3 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 Summary (documentation included)

106 Topic	Findings
Historic Architecture	The NCDOT 106 Programmatic Agreement (PA) checklist was completed for this project (attached). The checklist determined the project is exempt from further Section 106 review in accordance with NCDOT's Section 106 PA.
Archaeology	
Tribal Coordination	The PA checklist exempts the project from tribal coordination.

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

Permit Drawings

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 3.02; Released April 23, 2024)

WBS Element: DF18313.2061259.F **TIP/Proj No:** DF18313.2061259.PR **County(ies):** Mitchell

General Project Information

WBS Element:	DF18313.2061259.PR	**TIP Number:**	DF18313.2061259.PR	**Project Type:**	Other	**Date:**	8/28/2025
NCDOT Contact:	Marc Shown		**Contractor / Designer:**	KCI - CRYSTAL MOORE			
Address:	1000 Birch Ridge Road Raleigh NC 27610		**Address:**	4800 FALLS OF NEUSE RD SUITE 200 RALEIGH NC 27609			
Phone:	919-707-6757		**Phone:**	919-278-2466			
Email:	mtshown@ncdot.gov		**Email:**	CRYSTAL.MOORE@KCI.COM			
City/Town:	BAKERSVILLE		**County(ies):**	Mitchell			
River Basin(s):	French Broad		**CAMA County?**	No			
Wetlands within Project Limits?	No						

Project Description

Project Length (lin. miles or feet):	0.05	**Surrounding Land Use:**	RURAL		
	Proposed Project			**Existing Site**	
Project Built-Upon Area (ac.)	0.3	ac.		0.3	ac.
Typical Cross Section Description:	Main Line - 2 Travels lanes at 9' at 0.02 cross slope; paved shoulders 3' with varying grades and grass shoulders 8' with varying slopes between 4:1 to 2:1. Driveway - 2 Travels lanes at 9'; paved shoulders 3' and grass shoulders 8' with varying slopes between 4:1 to 2:1.			Main Line - 2 Travels lanes at 9' normal crown at 0.02 cross slope. Driveway - 2 Travels lanes at 9'	
Annual Avg Daily Traffic (veh/hr/day):	Design/Future: 100	Year:	2022	Existing: 100	Year: 2022

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

The proposed project consist of replacing bridge 600154 that was washed out during Hurricane Helene. The proposed bridge is 1 span@70' 24" Cored Slab with 4' end bent caps on 1.5:1 sloping abutments. Sloping abutments will be armored with Cl. II Riprap. After Hurricane Helene a temporary structure of two rail cars were put in place with channel stabilization. After removal and installation of the proposed bridge the Cl. II Riprap needs to be replaced as needed on the existing 1.5:1 sloping abutments. The proposed roadway drainage consist of a concrete flume and ditch at the low point (DRWY 10+27.18), 2GI in approach slab at Station -L- 13+47 LT. Both systems outfall into Cl. B riprap pads.

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 3.02; Released April 23, 2024)

WBS Element: DF18313.2061259.F **TIP/Proj No.:** DF18313.2061259.PR **County(ies):** Mitchell

General Project Information

Waterbody Information

Surface Water Body (1):	CANE CREEK		**NCDWR Stream Index No.:**	7-2-59		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	Trout Waters (Tr)			
Other Stream Classification:						
Impairments:						
Aquatic T&E Species?		Comments:				
NRTR Stream ID:				**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	Yes	**Deck Drains Discharge Over Buffer?**	Yes	**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)						

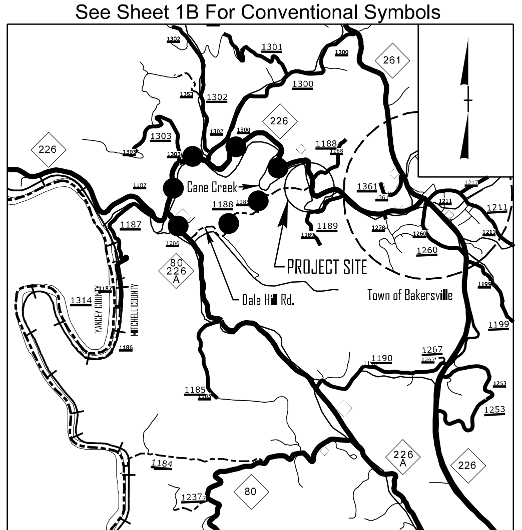
Surface Water Body (2):			**NCDWR Stream Index No.:**			
NCDWR Surface Water Classification for Water Body		**Primary Classification:**				
		Supplemental Classification:				
Other Stream Classification:						
Impairments:						
Aquatic T&E Species?		Comments:				
NRTR Stream ID:				**Buffer Rules in 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: C205024 PROJECT: DF18313.2061259.PR

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols



VICINITY MAP (NTS)

●—●—● OFFSITE DETOUR ROUTE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MITCHELL COUNTY

LOCATION: *REPLACE BRIDGE NO. 600154 ON SR1188 (DALE HILL ROAD) OVER CANE CREEK*

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

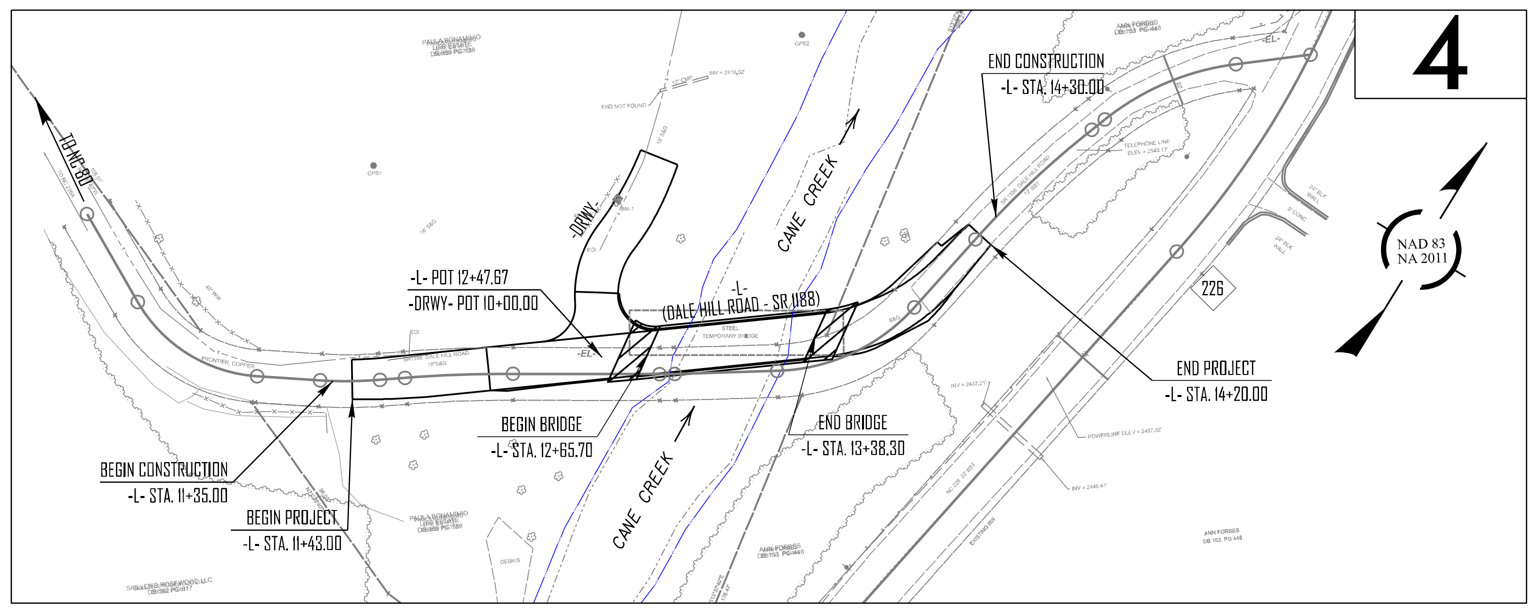
PERMIT DRAWING
SHEET 1 OF 5

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	DF18313.2061259.PR	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
DF18313.2061259.PR	NA	P.E.
DF18313.2061259.PR	NA	R/W & UTIL.
DF18313.2061259.PR	NA	CONSTR.

SUBMITTAL: S-0002	PREL. PLANS	MAY 16, 2025
RESPONSE: S-0002	PREL. PLANS	MAY 22, 2025
SUBMITTAL: S-0007	ROW PLANS	NOV. 25, 2025
RESPONSE: S-0007	ROW PLANS	DEC. 5, 2025
SUBMITTAL: S-000x	FINAL PLANS	xxx. xx, 2026
RESPONSE: S-000x	FINAL PLANS	xxx. xx, 2026
SUBMITTAL: S-000x	RFC PLANS	xxx. xx, 2026

WETLAND AND SURFACE WATER IMPACTS PERMIT



NOTE:
THIS PROJECT IS NOT WITHIN MUNICIPAL BOUNDARIES.

PROJECT FALLS UNDER DISASTER SPECIFIC GUIDANCE (DSG) ISSUED ON MAY 9, 2025, ON THE REPAIR/REPLACEMENT OF PUBLICLY OWNED ROADS AND BRIDGES FOR DR-4827-NC.

CHANGED STRUCTURE LENGTH FROM RFP RECOMMENDED LENGTH OF 60' TO 70'

MOUNTAIN CREEK CONTRACTORS
License #44699

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

20 10 0 20 40
PLANS

20 10 0 20 40
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2022 = 100

V = 20 MPH

FUNC CLASS =
RURAL LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY
PROJECT DF18313.2061259.PR = 0.038 MILES

LENGTH OF STRUCTURE
PROJECT DF18313.2061259.PR = 0.014 MILES

TOTAL LENGTH OF
PROJECT DF18313.2061259.PR = 0.052 MILES

Prepared in the Office of:

KCI
KCI ASSOCIATES OF N.C., P.A.
4800 Falls of Neuse Road, Suite 200
Raleigh, NC 27609
Phone (919) 783-9214
NC Firm License No: C-0764

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JANUARY 21, 2025

LETTING DATE:
JANUARY 21, 2025

Plans Prepared For:

DIVISION OF HIGHWAYS

1000 Birch Ridge Dr.
Raleigh NC, 27610

BARRY SMITH, P.E.
PROJECT ENGINEER

MATT ARMSTRONG, P.E.
PROJECT DESIGN ENGINEER

ANDY HUSSEY, P.E.
NCDOT CONTACT

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 033860 ENGINEER LEAH M. YOUNG

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 045664 ENGINEER MATTHEW G. ARMSTRONG

SIGNATURE: *P.E.*

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

11/14/23

TS TS — TEMPORARY SURFACE WATER IMPACTS

S S — SURFACE WATER IMPACTS

0' 5' 20'
Scale: 1" = 20'

600154 DF18313.2061259.PR

PERMIT DRAWING
SHEET 2 OF 5

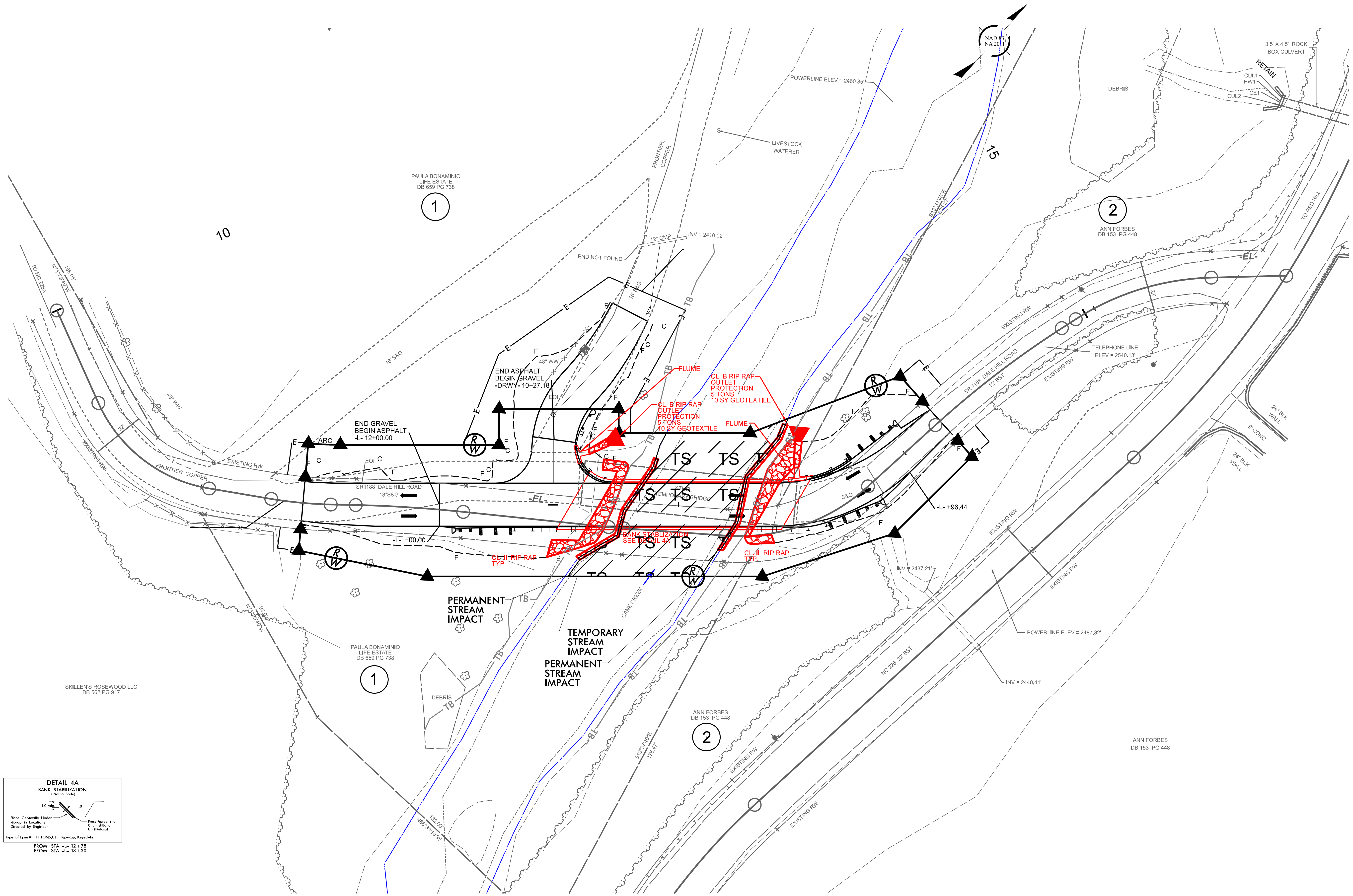
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY
KCI ASSOCIATES OF N.C., P.A.
4600 Falls of Neuse Road, Suite 200
Raleigh, NC 27609
Phone (919) 783-9214
NC Firm License No: C-0764

REVISIONS



PAULA BONAMINIO
LIFE ESTATE
DB 659 PG 738
ANN FORBES
DB 153 PG 448
SKILLEN'S ROSEWOOD LLC
DB 582 PG 917
POWERLINE ELEV = 2460.85'
LIVESTOCK WATERER
FRONTIER COPPER
END NOT FOUND
12" CMP
INV = 2410.02'
3.5' X 4.5' ROCK BOX CULVERT
RETAIN
DEBRIS
TO RED HILL
TO NC 226A
TELEPHONE LINE ELEV = 2540.13'
END ASPHALT
BEGIN GRAVEL
-DRWY- 10+27.18
END GRAVEL
BEGIN ASPHALT
-L- 12+00.00
SR1188 DALE HILL ROAD
18"S&G
TEMPORARY BRIDGE
FLUME
CL. B RIP RAP
OUTLET
PROTECTION
5 TONS
10 SY GEOTEXTILE
BANK STABILIZATION
SEE DETAIL 4A
CL. II RIP RAP
TYP.
-L- +96.44
-L- +00.00
INV = 2437.21'
POWERLINE ELEV = 2487.32'
INV = 2440.41'
NC 226 22' BST
EXISTING RW
CANE CREEK
PERMANENT
STREAM
IMPACT
TEMPORARY
STREAM
IMPACT
PERMANENT
STREAM
IMPACT
DETAIL 4A
BANK STABILIZATION
(Not to Scale)
FROM STA. -L- 12+78
FROM STA. -L- 13+30

11/14/23

TS TS TEMPORARY SURFACE WATER IMPACTS

S S SURFACE WATER IMPACTS

0' 5' 20'
Scale: 1"= 20'

600154 DF18313.2061259.PR

PERMIT DRAWING
SHEET 3 OF 5

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PREPARED BY
KCI ASSOCIATES OF N.C., P.A.
4600 Falls of Neuse Road, Suite 200
Raleigh, NC 27609
Phone (919) 783-9214
NC Firm License No: C-0764

REVISIONS

PAULA BONAMINIO LIFE ESTATE DB 659 PG 738
1
10
15
2
ANN FORBES DB 153 PG 448
POWERLINE ELEV = 2460.85'
LIVESTOCK WATERER
FRONTIER COPPER
12" CMP
INV = 2410.02'
END NOT FOUND
DEBRIS
RETAIN
3.5' X 4.5' ROCK BOX CULVERT
TO RED HILL
TO NC 226A
-EL-
END ASPHALT
BEGIN GRAVEL
-DRWY- 10+27.18
END GRAVEL
BEGIN ASPHALT
-L- 12+00.00
EXISTING RW
SR1188 DALE HILL ROAD
18"S&G
TEMPORARY BRIDGE
-L- +00.00
-L- +96.44
FLUME
CL. B RIP RAP OUTLET PROTECTION 5 TONS 10 SY GEOTEXTILE
CL. B RIP RAP OUTLET PROTECTION 5 TONS 10 SY GEOTEXTILE
BANK STABILIZATION SEE DETAIL 4A
CL. II RIP RAP TYP.
CL. II RIP RAP TYP.
TS
TELEPHONE LINE ELEV = 2640.13'
PERMANENT STREAM IMPACT
TEMPORARY STREAM IMPACT
PERMANENT STREAM IMPACT
CANE CREEK
POWERLINE ELEV = 2437.32'
INV = 2437.21'
INV = 2440.41'
SKILLEN'S ROSEWOOD LLC DB 562 PG 917
PAULA BONAMINIO LIFE ESTATE DB 659 PG 738
ANN FORBES DB 153 PG 448
2410.0'
2415.0'
2420.0'
2425.0'
2430.0'
2435.0'
2440.0'
2445.0'
2450.0'
2455.0'
2460.0'
2465.0'
DETAIL 4A
BANK STABILIZATION
(Not to Scale)
FROM STA. -L- 12+78
FROM STA. -L- 13+30

11/14/25

PERMIT DRAWING
SHEET 4 OF 5

600154 DFI8313.2061259.PR

FINAL | 05

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PREPARED BY

KCI ASSOCIATES OF N.C., P.A.
8800 Falls of Neuse Road, Suite 200
Raleigh, NC 27609
Phone (919) 783-9214
NC Firm License No: C-0704

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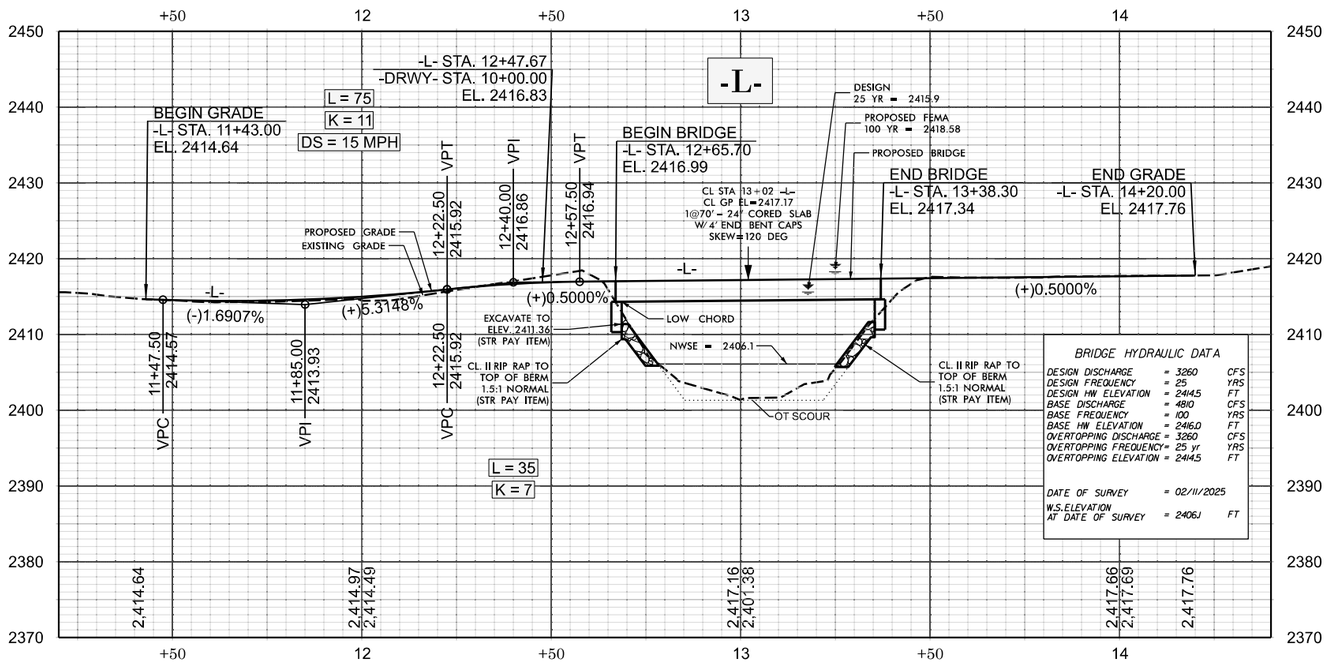
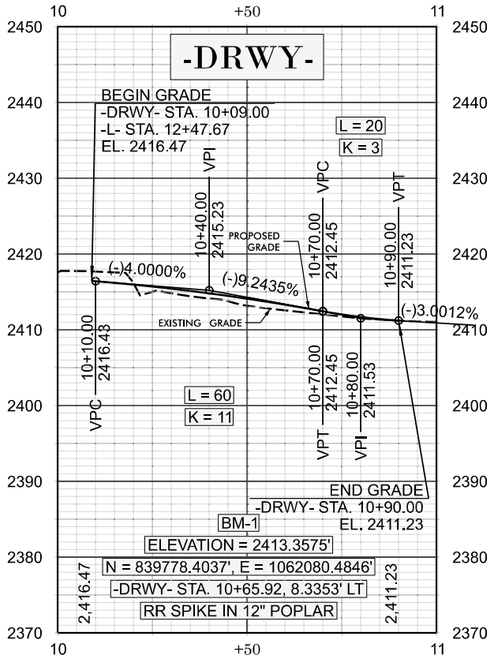




FOR -L- PLAN, SEE SHEET 04
FOR -DRV1- PLAN, SEE SHEET 04

REVISIONS

KCI/Matt.Armstrong - 3/20/2026

WETLAND AND SURFACE 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- STA 12+53 RT TO 13+45 LT	BRIDGE							0.06		16	
1	-L- STA 12+78	BANK STABILIZATION						< 0.01		60		
TOTALS*:								< 0.01	0.06	60	16	0

*Rounded totals are sum of actual impacts

NOTES:
Temporary impact is from row to row
Temporary impact includes removal of existing bridge

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
5/4/2026
MITCHELL
DF18313.2061259.PR
BRIDGE 600154
SHEET 5 OF 5

Revised 2018 Feb

ESA Consultation

Biological and Conference Opinions and Informal Consultations – Batch Format

Replace Multiple Crossing Structures Destroyed by Tropical Storm Helene in Buncombe, Madison, McDowell, Mitchell, and Yancey Counties, North Carolina

Service Log #25-276 through 25-299

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: 2025.09.04 09:55:36 -04'00'

Gary Peeples
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.
- **August 14, 2025:** NCDOT submitted batched request for informal and formal consultation to the Service.
- **August 18, 2025:** Service asked NCDOT if three projects located in McDowell County submitted to the Western North Carolina programmatic biological opinion for bats would be better suited in this Helene batch submission.
- **August 19, 2025:** NCDOT added three projects in McDowell County to this Helene batch submission.

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 current estimated timeline is for these projects to begin in 2025 and be completed by late 2026-early 2027. 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.

100110	Broad River	Buncombe	35.4949, -82.2734	Bridge completely gone	25-279
100132	Ivy Creek	Buncombe	35.7897, -82.5338	Bridge completely gone	25-280
100135	Ivy Creek	Buncombe	35.7878, -82.5149	Bridge completely gone	25-281
100139	N. Fork Ivy Creek	Buncombe	35.7788, -82.4556	Bridge damaged but remains, collapsed Crews removed bridge from water	25-282
100147	Dillingham Creek	Buncombe	35.7550, -82.4041	Bridge damaged but remains	25-283
100175	N. Fork Ivy Creek	Buncombe	35.7994, -82.3692	Bridge completely gone	25-284
100200	N. Fork Ivy Creek	Buncombe	35.7994, -82.3692	Bridge completely gone	25-285
100307	Shope Creek	Buncombe	35.6460, -82.4470	Bridge damaged but remains	25-286
100428	Beetree Creek	Buncombe	35.6331, -82.4181	Bridge damaged but remains	25-287
560042	Ivy Creek	Madison	35.7940, -82.6133	Bridge completely gone	25-288
580044	Curtis Creek	McDowell	35.6452, -82.1590	Bridge damaged but remains	25-289
580119	N. Fork Catawba River	McDowell	35.8751, -81.9425	Bridge completely gone	25-290
580285	N. Fork Catawba River	McDowell	35.9047, -81.9427	Bridge completely gone	25-291
580345	Armstrong Creek	McDowell	35.8109, -82.0512	Bridge damaged but remains	25-292
600123	Charles Creek	Mitchell	36.0730, -82.1134	Bridge completely gone	25-293
600152	Left Fork Cane Creek	Mitchell	36.0208, -82.0883	Pipes damaged but remain	25-294
600154	Cane Creek	Mitchell	36.0161, -82.1717	Bridge completely gone	25-295
990100	Ayles Creek	Yancey	35.8795, -82.2229	Bridge destroyed, temporarily replaced with metal rail car bridge	25-296
990014	Banks Creek	Yancey	35.8945, -82.3701	Bridge completely gone	25-297
990156	Colberts Creek	Yancey	35.8010, -82.2080	Bridge destroyed, temporarily installed 3 small culverts	25-298
990047	Mine Fork	Yancey	35.9687,-82.2844	Bridge damaged but remains	25-299
580023	Lake Tahoma	McDowell	35.7281, -82.0924	Bridge damaged but remains	25-276

580079	Buck Creek	McDowell	35.7356, -82.1295	Bridge damaged but remains	25-277
580083	Buck Creek	McDowell	35.7384, -82.1348	Bridge damaged but remains	25-278

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) determinations, with supporting biological rationale. For this batch of projects there were no "May Affect, Not Likely to Adversely Affect" (NLAA) determinations for any species.

Table 2. Species NE Determinations

Structure Number	Waterbody	Service Log No.	NE and NLAA Species
100110	Broad River	25-279	**NE**: white irisette (Sisyrinchium dichotomum), rock gnome lichen (*Gymnoderma lineare*) **Rationale**: Absence of suitable habitat
100147	Dillingham Creek	25-283	**NE**: rock gnome lichen **Rationale**: Absence of suitable habitat
100175	N. Fork Ivy Creek	25-284	**NE**: rock gnome lichen **Rationale**: Absence of suitable habitat
100200	N. Fork Ivy Creek	25-285	**NE**: rock gnome lichen **Rationale**: Absence of suitable habitat
580044	Curtis Creek	25-289	**NE:** small whorled pogonia (*Isotria medeoloides*) **Rationale**: Absence of suitable habitat
580119	N. Fork Catawba River	25-290	**NE**: small whorled pogonia **Rationale**: Absence of suitable habitat
580285	N. Fork Catawba River	25-291	**NE**: small whorled pogonia **Rationale**: Absence of suitable habitat
580345	Armstrong Creek	25-292	**NE**: small whorled pogonia, rock gnome lichen **Rationale**: Absence of suitable habitat
600123	Charles Creek	25-293	**NE**: Virginia spiraea (Spiraea virginiana), rock gnome lichen **Rationale**: Absence of suitable habitat
600152	Left Fork Cane Creek	25-294	**NE**: Virginia spiraea, rock gnome lichen **Rationale**: Absence of suitable habitat
600154	Cane Creek	25-295	**NE**: Virginia spiraea **Rationale**: Absence of suitable habitat
990100	Ayles Creek	25-296	**NE**: Virginia spiraea, small whorled pogonia **Rationale**: Absence of suitable habitat
990014	Banks Creek	25-297	**NE**: Virginia spiraea, small whorled pogonia **Rationale**: Absence of suitable habitat
990156	Colberts Creek	25-298	**NE**: Virginia spiraea, small whorled pogonia

			Rationale: Absence of suitable habitat
990047	Mine Fork	25-299	**NE**: Virginia spiraea, small whorled pogonia **Rationale**: Absence of suitable habitat
580023	Lake Tahoma	25-276	**NE**: rock gnome lichen, small whorled pogonia **Rationale**: Absence of suitable habitat
580079	Buck Creek	25-277	**NE**: rock gnome lichen, small whorled pogonia **Rationale**: Absence of suitable habitat
580083	Buck Creek	25-278	**NE**: rock gnome lichen, small whorled pogonia **Rationale**: 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.

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 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 protections set forth in the ESA will apply.

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 biological and conference opinions (Opinion) and is based on our review of the proposal to replace several crossing structures (Table 1) and their effects on the federally endangered gray bat (*Myotis grisescens*), federally endangered 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 3, 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.

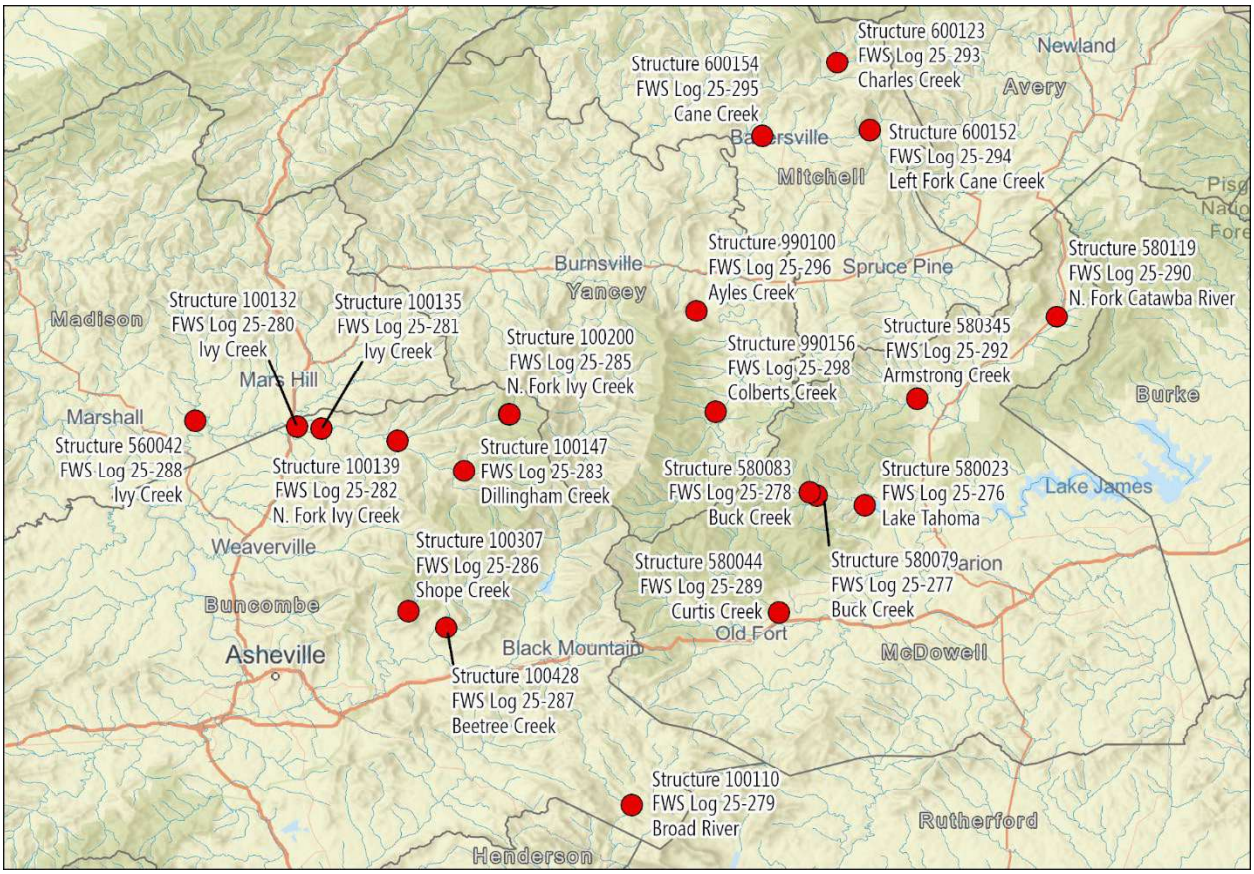
Table 3. Projects that are likely to Adversely Affect (LAA) Listed Species

Structure Number	Waterbody	County	Location	Service Log No.	Taxa Determination
100110	Broad River	Buncombe	35.4949, -82.2734	25-279	Plants: NE Bats: LAA Aquatics: NE
100132	Ivy Creek	Buncombe	35.7897, -82.5338	25-280	Plants: NE Bats: LAA Aquatics: NE
100135	Ivy Creek	Buncombe	35.7878, -82.5149	25-281	Plants: NE Bats: LAA Aquatics: NE
100139	N. Fork Ivy Creek	Buncombe	35.7788, -82.4556	25-282	Plants: NE Bats: LAA Aquatics: NE
100147	Dillingham Creek	Buncombe	35.7550, -82.4041	25-283	Plants: NE Bats: LAA Aquatics: NE

100175	N. Fork Ivy Creek	Buncombe	35.7994, -82.3692	25-284	Plants: NE Bats: LAA Aquatics: NE
100200	N. Fork Ivy Creek	Buncombe	35.7994, -82.3692	25-285	Plants: NE Bats: LAA Aquatics: NE
100307	Shope Creek	Buncombe	35.6460, -82.4470	25-286	Plants: NE Bats: LAA Aquatics: NE
100428	Beetree Creek	Buncombe	35.6331, -82.4181	25-287	Plants: NE Bats: LAA Aquatics: NE
560042	Ivy Creek	Madison	35.7940, -82.6133	25-288	Plants: NE Bats: LAA Aquatics: NE
580044	Curtis Creek	McDowell	35.6452, -82.1590	25-289	Plants: NE Bats: LAA Aquatics: NE
580119	N. Fork Catawba River	McDowell	35.8751, -81.9425	25-290	Plants: NE Bats: LAA Aquatics: NE
580345	Armstrong Creek	McDowell	35.8109, -82.0512	25-292	Plants: NE Bats: LAA Aquatics: NE
600123	Charles Creek	Mitchell	36.0730, -82.1134	25-293	Plants: NE Bats: LAA Aquatics: NE
600152	Left Fork Cane Creek	Mitchell	36.0208, -82.0883	25-294	Plants: NE Bats: LAA Aquatics: NE
600154	Cane Creek	Mitchell	36.0161, -82.1717	25-295	Plants: NE Bats: LAA Aquatics: NE
990100	Ayles Creek	Yancey	35.8795, -82.2229	25-296	Plants: NE Bats: LAA Aquatics: NE
990156	Colberts Creek	Yancey	35.8010, -82.2080	25-298	Plants: NE Bats: LAA Aquatics: NE
580023	Lake Tahoma	McDowell	35.7281, -82.0924	25-276	Plants: NE Bats: LAA Aquatics: NE

580079	Buck Creek	McDowell	35.7356, -82.1295	25-277	Plants: NE Bats: LAA Aquatics: NE
580083	Buck Creek	McDowell	35.7384, -82.1348	25-278	Plants: NE Bats: LAA Aquatics: NE

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



2.2 Project Description

The details of the proposed project designs for each of the crossing structures in Table 1 are not yet known, given the mass response/repair/rebuild efforts for the hundreds of infrastructure failure projects due to TS Helene destruction. The scale of destruction from TS Helene, and associated response efforts, compel a batched consultation response, and the design-build process be expedited. Thus, exact designs and associated action area impact details are not known at the time of this review. However, project activities and estimated impacts, based on the "knowns" associated with NCDOT's crossing structure replacement work, are available. At the time of this consultation, the expectation is that the majority of the replacement bridges will be concrete box beam or cored slab structures and the culvert structures will be the same or similar materials to those previously in place. The general and expected elements of these crossing structure replacement projects are described below. The current estimated timeline is for these

projects to be carried out over the next two years.

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 at structure replacement locations 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. 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.

2.3 Avoidance and Minimization and Conservation Measures

NCDOT will employ the following agency Standards, Guides, 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 that 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.

Bats - The General AMMs will minimize impacts to listed and proposed bat species. **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 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 shielded 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.

Aquatics- The General AMMs above will minimize impacts to listed/proposed aquatic species. **To the maximum extent possible**, the following AMMs will also 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 [such as in-water bents] to water resource, built to NCDOT's current 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 included in 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.

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.

Bat CM - Tree Clearing Bat Fund Contribution: For individual bridge projects that are LAA 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 based on the current unknowns surrounding time-of-year clearing. 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 amount is unknown, an assumed clearing acreage of 0.1 acre will be used based on estimates from previous clearing work at crossing structures (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) (Service 2020b). Therefore 0.10 acre per crossing structure is used to calculate the amount of suitable bat habitat lost for projects involving structure impacts. However, the impacts to bats that may be displaced during structure demolition/construction are considered temporary in nature because the replacement structures are understood to provide adequate roosting habitat, as addressed in the project description. Additionally, the structures being analyzed here are all damaged and understood to provide reduced areas of suitable bat roosting habitat. Therefore, the 1.5:1 ratio multiplier was determined to be appropriate. If the structures are demolished between March 15 – November 15 (the period during which gray bats could be present on the landscape, which also encompasses the northern long-eared bat and tricolored bat active seasons) a structure-related payment will be made; if not, no structure-related payment will be made. The formula is calculated as follows: $5,190 x 0.1 ac = 519 x 1.5 (temporary impact multiplier) = $779 contribution/structure.

3. Status of the Species

This section summarizes best available data about the biology and current condition of the gray bat (*Myotis grisescens*), 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 Gray Bat

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

3.1.1 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, 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 observed in bridges with concrete 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). On a macroscale, gray bats feed in aquatic-based habitats where specific types of insect prey are abundant (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.

3.1.2 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).

3.1.3 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.

3.2 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

3.2.1 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). According to approximately 2,000 bridge surveys

conducted throughout western North Carolina from 2000 - 2023, northern long-eared bats have been recorded roosting in western North Carolina bridges at a usage rate of 0.2% (NCDOT 2023a) with use documented to occur from May - October. With one exception, all bridge roost records in North 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 like 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).

3.2.2 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).

3.2.3 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.

3.3 Tricolored Bat

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

3.3.1 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 spring, summer, and fall, tricolored bats are found in forested habitats where they roost in trees, primarily among leaves. 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 one 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. 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 like 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.

3.3.2 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 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). According to approximately 2,000 bridge surveys conducted throughout western North Carolina from 2000 - 2023, tricolored bats have been recorded roosting in bridges at a usage rate of 1.3% (NCDOT 2023a). Tricolored bat bridge use has been documented to occur in western North Carolina from April – October (with one outlier record from 2013 citing February use). Approximately 900 culvert surveys have been conducted in western North Carolina from 2010 – 2023 (NCDOT 2023b) with year-round data coverage. Tricolored bats have been found using culverts in western North Carolina, again at a relatively low rate (0.8% observed use). Culvert use has been observed in western North Carolina from January – April.

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).

3.3.3 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 Listed and Proposed Bats Within the Action Areas

Structures

Portions of damaged McDowell County crossing structures 023, 044, 079, 083; and Mitchell County crossing structure 152 remain in place; however, suitable structural roosting habitat on all structures is extensively reduced and degraded from pre-storm conditions. For gray bats, primary roost structures can support several hundred to over 1,000 individuals, but most structures with observed gray bat roosting in WNC contain only one to 10 individuals. The bridges or culverts that support higher numbers of gray bats are typically larger than average. Northern long-eared bats are only known to roost on bridges in WNC typically between one and two individuals at any given time. Tricolored bats are known to roost on both bridges and culverts typically between 1-2 individuals per structure. In more detail, Natural Heritage data shows three gray bat and one tricolored bat bridge roost locations in McDowell County. Within the action areas of these damaged crossing structures, given the degraded and reduced roosting habitat available, and based on existing WNC data, it is estimated that one individual per species could be present within each structure at each crossing location.

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. Buncombe County projects 110, 132, 135, 139 147, 175, 200, and 307, Madison County projects 042, McDowell projects 023, 044, 079, 083, 119, 345, and 428, Mitchell County projects 123, 152, and 154, and Yancey County projects 100 and 156 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 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 Gray Bat, Northern Long-eared Bat, and Tricolored Bat

5.1.1 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.

5.1.2 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, while adults may be able to flush, any non-volant pups present 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, northern long-eared bat, and tricolored bat in the form of harm.

Tree Removal

The removal of suitable roost trees, if conducted while northern long-eared bats, or tricolored bats are present, could result in causing bats to flush, which would expose them to risk of predation, 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, while adults may be able to flush, any non-volant pups would be left behind and would likely perish. In summary, these activities, should they occur while bats are present, are likely to adversely affect 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 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.

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

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 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. It is the Service's biological and conference opinion that the proposed actions are not likely to jeopardize the continued existence of gray bat, northern long-eared bat, or tricolored bat. This opinion is based on the following factors: Effects of the actions occur as a result the planned replacement of Buncombe County crossing structures 110, 132, 135, 139, 147, 175, 200, 307, and 428; Madison County crossing structure 042; McDowell County crossing structures 023, 044, 079, 083, 119, and 345; Mitchell County crossing structures 123, 152, and 154; and Yancey County crossing structures 100 and 156. 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, 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 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, 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, 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 Gray Bat, Northern Long-eared Bat, and Tricolored Bat

The Service anticipates incidental take of gray, northern long-eared, and tricolored bats may result from the demolition (if applicable) and construction of crossing structures 110, 132, 135, 139, 147, 175, 200, 307, and 428 (Buncombe County); 042 (Madison County); 023, 044, 079, 083, 119, and 345 (McDowell County); 123, 152, and 154 (Mitchell County); and 100 and 156 (Yancey County). 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 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 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 one individual of gray bat or two individuals of northern long-eared 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 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.

7.2 Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measure(s) are necessary and appropriate to minimize take of gray 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.

7.3 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 and dates of tree removal (if any), if LAA for bats (excepting gray bat).
        ii. Dates of structure removal (if any), if LAA for bats.
        iii. 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: Buncombe County structures 132, 135, and 139, and Yancey County structure 298. Ahead of work at this location, 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**: Proximity to aquatic species with North Carolina designations was noted for Buncombe County crossing structures 132, 135, 175, and 200, Madison County crossing structure 042, McDowell County crossing structure 044, and Mitchell County crossing structure 123. 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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Section 106 Checklist

Cultural Resources Programmatic Agreement Screening Checklist for Section 106

Project TIP: **FA:** **WBS:** DF18313.2061259

Project Name: repair/replace Bridge 154 **County:** Mitchell

Project Description: Repair/replace Bridge 154 over Cane Creek on Dale Hill Road due to damages incurred by Hurricane Helene

Funding Source: anticipated federal reimbursement **Lead Federal Agency:** FHWA/FEMA

Permits Anticipated: none anticipated

Instructions:
NCDOT Project Managers, Project Engineers, or the Division Environmental Staff shall complete the following checklist based upon knowledge of the project site and adjacent parcels. Webservices (https://www.ncdcr.gov/about/history/division-historical-resources/gis-maps-and-data) should be reviewed for NRHP Eligible or Listed Buildings, Districts, Objects, Sites, or Structures. Before checking "Unable to Determine", efforts should be made to acquire any available information. If the answer to any question is "Yes" or "Unable to Determine", the undertaking is subject to further historic preservation review by NCDOT Cultural Resources staff. If answers to all the questions are "No", the undertaking will be considered to have *Little Potential to Cause Effects – Exempt Activities* and excluded from further historic preservation review, until differing information is discovered. Please reference "Appendix A *Exempt Activities Under Section 106*" of the Programmatic Agreement for Transportation Program in North Carolina prior to completion.

	Yes	No	Unable to Determine
A. Would this activity have the potential to cause effects on historic properties, assuming historic properties are present? See list in Appendix A.		X	
B. Is this project directly related to other actions with individually insignificant, but cumulatively significant environmental effects?		X	
C. Are you aware of any concerns raised by the owner of a historic property or public controversy for this undertaking?		X	
D. Locations of cemeteries have been found on the webservices? (https://www.ncdcr.gov/about/history/division-historical-resources/gis-maps-and-data)		X	

By my signature, I certify that I have completed a site visit or am familiar with the specifics of the project and to the best of my knowledge answers to the questions above are correct. I also understand that no further environmental analysis is required at this time, as all of the answers are "No".

Christine Farrell	*Christine Farrell*	11/6/2024
Name (print)	Signature	Date

NEPA Document

Type I or II Categorical Exclusion Action Classification Form

STIP/Project No. Bridge 154, Div 13, Mitchell County

WBS/DF Element DF18313.2061259

Federal Project No. _____

A. Project Description:

The North Carolina Department of Transportation (NCDOT) intends to re-establish Bridge 154 over Cane Creek on Dale Hill Road in Mitchell County, North Carolina (Division 13). See vicinity map.

B. Description of Need and Purpose:

The Purpose of the project is to replace a structure damaged by floodwaters associated with Hurricane Helene which made landfall in Florida on September 26, 2024. The repair/replacement work is needed to restore essential traffic in Western North Carolina.

C. Categorical Exclusion Action Classification:

Type I(A) - Ground Disturbing Action

D. Proposed Improvements:

9. The following actions for transportation facilities damaged by an incident resulting in an emergency declared by the Governor of the State and concurred in by the Secretary, or a disaster or emergency declared by the President pursuant to the Robert T. Stafford Act (42 U.S.C. 5121):

a) Emergency repairs under 23 U.S.C. 125; and

b) The repair, reconstruction, restoration, retrofitting, or replacement of any road, highway, bridge, tunnel, or transit facility (such as a ferry dock or bus transfer station), including ancillary transportation facilities (such as pedestrian/bicycle paths and bike lanes), that is in operation or under construction when damaged and the action:

i) Occurs within the existing right-of-way and in a manner that substantially conforms to the preexisting design, function, and location as the original (which may include upgrades to meet existing codes and standards as well as upgrades warranted to address conditions that have changed since the original construction); and

ii) Is commenced within a 2-year period beginning on the date of the declaration.

and/or

28. Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings, if the actions meet the constraints in 23 CFR 771.117(e)(1-6).

E. Special Project Information:

NCDOT conducted a desktop GIS analysis for potential natural and human environment features in early November 2024. The study area was defined as a 200-foot buffer around the bridge location. NCDOT is utilizing an Emergency Express Design-Build contracting process to expedite this process. The repair/replacement bridge work is anticipated to occur within the current NCDOT right-of-way (ROW). If additional ROW is required, or if the final design results in potential impacts outside of the study area, NCDOT will re-evaluate and document any additional effects. NCDOT is conducting

ongoing federal and state agency coordination to determine the most expedient processes for accomplishing NEPA compliance while adhering to emergency relief protocols.

NCDOT is providing comprehensive public outreach to our western NC communities in lieu of site-specific outreach. As site-specific information becomes available, NCDOT will use its various outreach platforms to inform the public.

A Direct and Indirect Screening Tool (DIST) was used to assess potential impacts to the local community, farm lands, and pedestrian accomodations (see project site). The bridge location is surrounded by protected farmland. Should any additional ROW or permanent easements be needed after design is available, the preliminary screening process should be initiated with Community Studies.

The NCDOT 106 PA checklist was completed for this project (see project site). The checklist determined the project is exempt from further Section 106 review in accordance with NCDOT's Section 106 PA. The PA also exempts the project from any further tribal coordination.

The United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) tool was reviewed on November 1, 2024. USFWS lists the following species below as federally protected with potential to be found within the project study area as of this date:

Species Name	**Scientific Name**	**ESA Status**	**Biological Conclusion**	**Habitat Present**
Gray bat	*Myotis grisescens*	Endangered	No Effect	No
Northern Long-eared bat	*Myotis septentrionalis*	Endangered	No Effect	No
Appalachian Elktoe	*Alasmidonta raveneliana*	Endangered	No Effect	No
Rock gnome lichen	*Gymnoderma lineare*	Endangered	No Effect	No
Virginia spiraea	*Spiraea virginiana*	Threatened	No Effect	No

F. Project Impact Criteria Checklists:

F2. Ground Disturbing Actions – Type I (Appendix A) & Type II (Appendix B)			
Proposed improvement(s) that fit Type I Actions (NCDOT-FHWA CE Programmatic Agreement, Appendix A) including 2, 3, 6, 7, 9, 12, 18, 21, 22 (ground disturbing), 23, 24, 25, 26, 27, 28, &/or 30; &/or Type II Actions (NCDOT-FHWA CE Programmatic Agreement, Appendix B) answer the project impact threshold questions (below) and questions 8 – 31. • *If any question 1-7 is checked "Yes" then NCDOT certification for FHWA approval is required.* • *If any question 1-31 is checked "Yes" then additional information will be required for those questions in Section G.*			
PROJECT IMPACT THRESHOLDS (FHWA signature required if any of the questions 1-7 are marked "Yes".)		Yes	No
1	Does the project require formal consultation with U.S. Fish and Wildlife Service (USFWS).	☐	☑
2	Does the project result in impacts subject to the conditions of the Bald and Golden Eagle Protection Act (BGEPA)?	☐	☑
3	Does the project generate substantial controversy or public opposition, for any reason, following appropriate public involvement?	☐	☑
4	Does the project cause disproportionately high and adverse impacts relative to low-income and/or minority populations?	☐	☑
5	Does the project involve a residential or commercial displacement, or a substantial amount of right of way acquisition?	☐	☑
6	Does the project require an Individual Section 4(f) approval?	☐	☑
7	Does the project include adverse effects that cannot be resolved with a Memorandum of Agreement (MOA) under Section 106 of the National Historic Preservation Act (NHPA) or have an adverse effect on a National Historic Landmark (NHL)?	☐	☑
If any question 8-31 is checked "Yes" then additional information will be required for those questions in Section G.			
Other Considerations		Yes	No
8	Is an Endangered Species Act (ESA) determination unresolved or is the project covered by a Programmatic Agreement under Section 7?	☐	☑
9	Is the project located in anadromous fish spawning waters?	☐	☑
10	Does the project impact waters classified as Outstanding Resource Water (ORW), High Quality Water (HQW), Water Supply Watershed Critical Areas, 303(d) listed impaired water bodies, buffer rules, or Submerged Aquatic Vegetation (SAV)? https://data-ncdenr.opendata.arcgis.com/datasets/surface-water-classifications/explore	☐	☑
11	Does the project impact Waters of the United States in any of the designated mountain trout streams? https://data-ncdenr.opendata.arcgis.com/datasets/surface-water-classifications/explore	☑	☐

12	Does the project require a U.S. Army Corps of Engineers (USACE) Individual Section 404 Permit?	☐	☑
13	Will the project require an easement from a Federal Energy Regulatory Commission (FERC) licensed facility?	☐	☑
14	Does the project include a Section 106 of the National Historic Preservation Act (NHPA) effects determination other than a No Effect, including archaeological remains?	☐	☑
15	Does the project involve GeoEnvironmental Sites of Concerns such as gas stations, dry cleaners, landfills, etc.?	☐	☑
16	Does the project require work encroaching and adversely affecting a regulatory floodway or work affecting the base floodplain (100-year flood) elevations of a water course or lake, pursuant to Executive Order 11988 and 23 CFR 650 subpart A?	☑	☐
17	Is the project in a Coastal Area Management Act (CAMA) county and substantially affects the coastal zone and/or any Area of Environmental Concern (AEC)?	☐	☑
18	Does the project require a U.S. Coast Guard (USCG) permit?	☐	☑
19	Does the project involve construction activities in, across, or adjacent to a designated Wild and Scenic River present within the project area? https://www.rivers.gov/carp/map	☐	☑
20	Does the project involve Coastal Barrier Resources Act (CBRA) resources?	☐	☑
21	Does the project impact federal lands (e.g. U.S. Forest Service (USFS), USFWS, etc.) or Tribal Lands?	☐	☑
22	Does the project involve any changes in access control or the modification or construction of an interchange on an interstate?	☐	☑
23	Does the project have a permanent adverse effect on local traffic patterns or community cohesiveness?	☐	☑
24	Will maintenance of traffic cause substantial disruption?	☐	☑
25	Is the project inconsistent with the STIP, and where applicable, the Metropolitan Planning Organization's (MPO's) Transportation Improvement Program (TIP)?	☑	☐
26	Does the project require the acquisition of lands under the protection of Section 6(f) of the Land and Water Conservation Act, the Federal Aid in Fish Restoration Act, the Federal Aid in Wildlife Restoration Act, Tennessee Valley Authority (TVA), Tribal Lands, or other unique areas or special lands that were acquired in fee or easement with public-use money and have deed restrictions or covenants on the property?	☐	☑
27	Does the project involve Federal Emergency Management Agency (FEMA) buyout properties under the Hazard Mitigation Grant Program (HMGP)?	☐	☑
28	Does the project include a *de minimis* or programmatic Section 4(f)?	☐	☑
29	Is the project considered a Type I under the NCDOT Noise Policy?	☐	☑
30	Is there prime or important farmland soil impacted by this project as defined by the Farmland Protection Policy Act (FPPA)?	☐	☑
31	Are there other issues that arose during the project development process that affected the project decision?	☐	☑

G. Additional Documentation as Required from Section F (ONLY for questions marked 'Yes'):

8. NCDOT and our federal partners, USACE and FHWA, completed consultation with USFWS in August 2024 to develop a Programmatic Section 7 Agreement for federally listed bat species in western NC (Divisions 9-14) after initiating the formal consultation process on 5/16/24. Per 50 CFR 402.12 issuance of a Programmatic Biological Opinion (PBO) was required on or before 09/30/24. Following recent and ongoing discussions with all parties, USFWS is expected to issue the PBO in February 2025. Once the PBO is issued, if Section 7 for this project has not been completed, it may need to be evaluated under the terms and conditions of the agreement.

11. Cane Creek is a designated trout water per NCDWR Surfacewater Classification system. If a USACE 404 permit is required for this project, it may include requirements related to trout moratoriums.

16. The County is a participant in the Federal Flood Insurance Program, administered by the Federal Emergency Management Agency (FEMA). The project is within a Flood Hazard Zone for which the 100-year base flood elevations and corresponding regulatory floodway/non-encroachment area have been established. The project intersects a FEMA mapped stream studied by the North Carolina Floodplain Mapping Program.
The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), to determine status of project with regard to applicability of NCDOT'S Memorandum of Agreement, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR). This project involves construction activities on or adjacent to FEMA-regulated stream(s). Therefore, the Division shall submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction, certifying that the drainage structure(s) and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

25. This project is an emergency relief project due to Hurricane Helene impacts. Per 40 CFR § 93.126, it is exempt from the requirement to determine conformity because it does not involve substantial functional, locational or capacity changes (23 CFR 450.218(g)).

H. Project Commitments (attach as Green Sheet to CE Form):

NCDOT PROJECT COMMITMENTS

WBS/DF DF18313.2061259
Re-establishment of Bridge 154 over Cane Creek on Dale Hill Road
Mitchell County
Federal Aid Project No. Federal Aid Number

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

NCDOT and our federal partners, USACE and FHWA, completed consultation with USFWS in August 2024 to develop a Programmatic Section 7 Agreement for federally listed bat species in western NC (Divisions 9-14) after initiating the formal consultation process on 5/16/24. Per 50 CFR 402.12 issuance of a Programmatic Biological Opinion (PBO) was required on or before 09/30/24. Following recent and ongoing discussions with all parties, USFWS is expected to issue the PBO in February 2025. Once the PBO is issued, if Section 7 for this project has not been completed, it may need to be evaluated under the terms and conditions of the agreement.

Eastern Hellbender
The Eastern Hellbender was proposed for federal listing in December 2024. However, no restrictions will take effect until the proposal is finalized, which is expected in late 2025 or early 2026. Until then, proposed species do not receive protection under the Endangered Species Act (ESA), except that federal action agencies must ensure their actions do not jeopardize the species' existence. These agencies may also consult with the U.S. Fish and Wildlife Service (USFWS) to obtain a conference opinion, which will automatically convert to a biological opinion upon the final listing decision.
In the meantime, NCDOT construction or division environmental offices may voluntarily coordinate with the North Carolina Wildlife Resources Commission (NCWRC) to assess and potentially relocate hellbenders from project sites in western North Carolina. It is recommended that they contact the NCWRC liaison at least two months before construction begins.

David McHenry

Email: david.mchenry@ncwildlife.org

Phone: (828) 476-1966

Monarch Butterfly
The Monarch Butterfly was proposed for federal listing in December 2024. However, no restrictions will take effect until the proposal is finalized, which is expected in late 2025 or early 2026. Until then, proposed species do not receive protection under the Endangered Species Act (ESA), except that federal action agencies must ensure their actions do not jeopardize the species' existence. These agencies may also consult with the U.S. Fish and Wildlife Service (USFWS) to obtain a conference opinion, which will automatically convert to a biological opinion upon the final listing decision.

Construction in FEMA Coordination
This project involves construction activities on or adjacent to FEMA-regulated stream(s). Therefore, the Division shall: (1) construct all vertical and horizontal elements within the floodplain as designed; and (2) consult with the Hydraulics Unit of any planned deviation of these elements within the floodplain prior to commencing any such changes; and (3) submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction. The Hydraulics Unit will then verify either: (1) the drainage structure(s) and roadway embankment located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically; or (2) any changes made to the plans were reviewed

and approved to meet FEMA SFHA compliance; or (3) appropriate mitigation measures will be achieved prior to project close-out.

Cane Creek is a designated trout water per NCDWR Surfacewater Classification system. If a USACE 404 permit is required for this project, it may include requirements related to trout moratoriums.

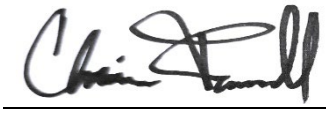
I. Categorical Exclusion Approval:

STIP/Project No. Bridge 154, Div 13, Mitchell County

WBS/DF Element DF18313.2061259

Federal Project No. _____

Prepared By:



01/07/2025
Date

Christine Farrell, NEPA Program Consultant
Environmental Policy Unit, NCDOT

Prepared For: NCDOT Division 13

Reviewed By:

2/11/2025
Date

Marissa Cox, Western Regional Team Lead
Environmental Policy Unit, NCDOT

☑ **Approved**

- If NO grey boxes are checked in Section F (pages 2 and 3), NCDOT approves the Type I or Type II Categorical Exclusion.

☐ **Certified**

- If ANY grey boxes are checked in Section F (pages 2 and 3), NCDOT certifies the Type I or Type II Categorical Exclusion for FHWA approval.
- If classified as Type III Categorical Exclusion.

2/11/2025
Date

John Jamison, Environmental Policy Unit Manager
North Carolina Department of Transportation

FHWA Approved: For Projects Certified by NCDOT (above), FHWA signature required.

_____
Date

for Yolonda K. Jordan, Division Administrator
Federal Highway Administration

Note: Prior to ROW or Construction authorization, a consultation may be required (please see Section VII of the NCDOT-FHWA CE Programmatic Agreement for more details).

Bridge Number	Division	County	Location Description	Latitude	Longitude
600154	13	Mitchell	SR 1188 (Dale Hill Rd/Upper Dale Hill Rd) from 500ft W of Bridge #600154 to 500ft NE of the bridge	36.0161144	-82.1717182

HNTB North Carolina, P.C.
4000 Center at North Hills Street, Suite 500
Raleigh, North Carolina 27609