STATE OF NORTH CAROLINA
# DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

July 18, 2023

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

NC Division of Water Resources
Transportation Permitting Branch
1617 Mail Service Center
Raleigh NC 27699-1617

ATTN: Ms. Lori Beckwith, NCDOT Coordinator

Mr. Kevin Mitchell
NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permit 14, and Section 401 Water Quality Certification** for the Proposed Replacement of Bridge 207 on SR 1106 over Grassy Creek in Mitchell County, Division 13, TIP No. B-6013, Debit $570 from WBS 48208.1.1.

Dear Madam and Sir:

The North Carolina Department of Transportation (NCDOT) proposes to replace bridge number 207 on SR 1106 over Grassy Creek with a new culvert slightly south of the existing location. Traffic will be detoured on-site during construction via staged construction.

As a result of replacing the bridge with a culvert, including associated roadway slopes and a pipe replacement at the south end of the project, there will be 66 linear feet of permanent stream impacts, 16 linear feet of stream bank stabilization and 143 linear feet (0.04) acre of temporary stream impacts. There will also be 0.014 acre of permanent impacts to wetlands from these activities.

Please see enclosed copies of the Pre-Construction Notification (PCN), Stormwater Management Plan, Permit Drawings, DMS Acceptance Letter, Protected Species Info and Reports, Cultural Resource Documents, and NEPA/SEPA Document.

This project let for Design via Express Design Build on December 21, 2021.

A copy of this permit application has been posted on the NCDOT Website at: http://connect.ncdot.gov/resources/Environmental. If you have any questions or need additional information, please contact Erin Cheely at ekcheely@ncdot.gov or (919) 707-6108.

Sincerely,

for Michael A. Turchy
Environmental Coordination and Permitting Group Leader

ec: NCDOT Permit Application Standard Distribution List

*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

# Pre-Construction Notification

# Pre-Construction Notification (PCN) Form

**For Nationwide Permits and Regional General Permits**

**(along with corresponding Water Quality Certifications)**

**April 13, 2022 Ver 4.3**

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

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

Below is a link to the online help file.

https://edocs.deq.nc.gov/WaterResources/0/edoc/624704/PCN%20Help%20File%202018-1-30.pdf

## A. Processing Information

**Pre-Filing Meeting Date Request was submitted on:** *

6/14/2023

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

**Is this project connected with ARPA funding?** *

○ Yes ◉ No

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

Mitchell

**Is this a NCDMS Project** *

○ Yes ◉ No

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

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

**Is this project a public transportation project?** *

◉ Yes ○ No

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

**Is this a NCDOT Project?** *

◉ Yes ○ No

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

B-6013

**WBS #** *

48208.1.1

(for NCDOT use only)

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

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

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

**Has this PCN previously been submitted?** *

○ Yes

◉ No

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

☑ Nationwide Permit (NWP)

☐ Regional General Permit (RGP)

☐ Standard (IP)

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

○ Yes ◉ No

**Nationwide Permit (NWP) Number:** 14 - Linear transportation

**NWP Numbers (for multiple NWPS):**

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

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

check all that apply

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

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

*

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

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

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

○ Yes ◉ No

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

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

◉ Yes ○ No

**Acceptance Letter Attachment**

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

FILE TYPE MUST BE PDF

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

○ Yes ◉ No

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

◉ Yes ○ No

**You must submit a copy of the appropriate Wildlife Resource Commission Office.**

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

# B. Applicant Information

**1a. Who is the Primary Contact?** *

Erin Cheely

**1b. Primary Contact Email:** *

ekcheely@ncdot.gov

**1c. Primary Contact Phone:** *

(xxx)xxx-xxxx

(919)707-6108

**1d. Who is applying for the permit?** *

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

(Check all that apply)

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

○ Yes ◉ No

## 2. Owner Information

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

NCDOT

**2b. Deed book and page no.:**

**2c. Contact Person:**

(for Corporations)

**2d. Address** *

Street Address

1598 Mail Service Center

Address Line 2

City

Raleigh

State / Province / Region

NC

Postal / Zip Code

27699-1598

Country

US

**2e. Telephone Number:** *

(xxx)xxx-xxxx

(919)707-6108

**2f. Fax Number:**

(xxx)xxx-xxxx

**2g. Email Address:** *

ekcheely@ncdot.gov

### 3. Applicant Information (if different from owner)

**3a. Name:** *

Erin Cheely

**3b. Business Name:**

(if applicable)

**3c. Address** *

Street Address

1598 Mail Service Center

Address Line 2

City

Raleigh

State / Province / Region

NC

Postal / Zip Code

27699-1598

Country

US

**3d. Telephone Number:** *

(919)707-6108

(xxx)xxx-xxxx

**3e. Fax Number:**

(xxx)xxx-xxxx

**3f. Email Address:** *

ekcheely@ncdot.gov

## C. Project Information and Prior Project History

### 1. Project Information

**1a. Name of project:** *

TIP B-6013 - Bridge 600207 on SR 1106 over Grassy Creek

**1b. Subdivision name:**

(if appropriate)

**1c. Nearest municipality / town:** *

Spruce Pine

### 2. Project Identification

**2a. Property Identification Number:**

(tax PIN or parcel ID)

**2b. Property size:**

(in acres)

**2c. Project Address**

Street Address

Address Line 2

City

State / Province / Region

Postal / Zip Code

Country

**2d. Site coordinates in decimal degrees**

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

**Latitude:** *

35.858957

ex: 34.208504

**Longitude:** *

-82.075387

-77.796371

### 3. Surface Waters

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

Grassy Creek

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

C;Tr

Surface Water Lookup

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

French Broad

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

060101080104

River Basin Lookup

## 4. Project Description and History

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

The project site includes an existing bridge and roadway, as well as a single aerial utility line on the eastern side of the road. Vegetated areas are primarily maintained roadside grasses and herbs as well as maintained pasture areas. Other forested areas consist of a montane alluvial forest, montane oak-hickory forest, and a swamp forest-bog complex. Adjacent land uses include rural residential, maintained pasture, and other undeveloped land.

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

○ Yes ◉ No ○ Unknown

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

0.02

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

(intermittent and perennial)

167

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

As identified in the April 2019 Categorical Exclusion (CE), the need for the proposed action is to replace a structurally deficient bridge. The purpose of the proposed action is to improve bridge structural safety and functionality for vehicular traffic.

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

NCDOT Project B-6013 involves the replacement of Structure 600207 over Grassy Creek on SR 1106 (Dale Road) in Mitchell County, NC south of Spruce Pine. The subject crossing involves the replacement of an existing 18' long by 21' wide (timber floor on timber joists) single-span bridge to be replaced by 1 @ 12' (span) X 8' (rise) Reinforced Concrete Box Culvert (RCBC), buried 1' with sills and backfilled with native material. The proposed grade will be about 2' above existing ground within the vicinity of the culvert and roughly matching existing ground approximately 210 ft south of the culvert and 170 ft north of the culvert. There will also be a replacement of a failing 24" corrugated metal pipe (CMP) with a 24" reinforced concrete pipe (RCP) on a tributary of Grassy Creek south of the proposed bridge replacement.

The existing bridge is currently discharging directly into the water for the full length of the bridge. Grassed shoulders are to be widened from existing and will be substantially flat allowing for diffusion and infiltration of the roadway runoff. All proposed stormwater runoff is discharged as far away from the stream and at the lowest velocities as practicable.

The project will utilize staged construction and maintain one travel lane with temporary traffic signals. Standard road and bridge building equipment such as trucks, dozers, and cranes will be used.

## 5. Jurisdictional Determinations

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

◉ Yes ○ No ○ Unknown

**Comments:**

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

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

**Corps AID Number:**

Example: SAW-2017-99999

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

**Name (if known):** Byron Levan, Mark Guerard

**Agency/Consultant Company:** Three Oaks Engineering

**Other:**

## 6. Future Project Plans

**6a. Is this a phased project?** *

○ Yes ◉ No

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

# D. Proposed Impacts Inventory

## 1. Impacts Summary

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

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

## 2. Wetland Impacts

**If there are wetland impacts proposed on the site, then complete this question for each wetland area impacted.**

**"W." will be used in the table below to represent the word "wetland".**

| 2a. Site # * (?) | 2a1 Reason * (?) | 2b. Impact type * (?) | 2c. Type of W. * | 2d. W. name * | 2e. Forested * | 2f. Type of Jurisdicition * (?) | 2g. Impact area * |
|---|---|---|---|---|---|---|---|
| 1 | 24" RCP and Rip Rap Pad | P | Headwater Forest | WB | No | Both | 0.002 (acres) |
| 1 | Mechanized Clearing | P | Headwater Forest | WB | No | Both | 0.007 (acres) |
| 1 | Mechanized Clearing | P | Headwater Forest | WA | Yes | Both | 0.001 (acres) |
| 1 | Roadway Fill and Erosion Control | P | Headwater Forest | WC | Yes | Both | 0.002 (acres) |
| 1 | Mechanized Clearing | P | Headwater Forest | WC | Yes | Both | 0.002 (acres) |

**2g. Total Temporary Wetland Impact**

0.000

**2g. Total Permanent Wetland Impact**

0.014

**2g. Total Wetland Impact**

0.014

**2i. Comments:**

See impact summary table for details.

## 3. Stream Impacts

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

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

| | 3a. Reason for impact * (?) | 3b.Impact type * | 3c. Type of impact * | 3d. S. name * | 3e. Stream Type * (?) | 3f. Type of Jurisdiction * | 3g. S. width * | 3h. Impact length * |
|---|---|---|---|---|---|---|---|---|
| S1 | 24" CMP Replacement | Temporary | Dewatering | SA | Intermittent | Corps | 2 Average (feet) | 10 (linear feet) |
| S2 | Grassy Creek Crossing | Permanent | Bank Stabilization | Grassy Creek | Perennial | Corps | 8 Average (feet) | 16 (linear feet) |
| S3 | Grassy Creek Crossing | Permanent | Culvert | Grassy Creek | Perennial | Corps | 8 Average (feet) | 66 (linear feet) |
| S4 | Grassy Creek Crossing | Temporary | Dewatering | Grassy Creek | Perennial | Corps | 8 Average (feet) | 133 (linear feet) |

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

**3i. Total jurisdictional ditch impact in square feet:**

0

**3i. Total permanent stream impacts:**

82

**3i. Total temporary stream impacts:**

143

**3i. Total stream and ditch impacts:**

225

**3j. Comments:**

See impact summary table for details.

# E. Impact Justification and Mitigation

## 1. Avoidance and Minimization

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

This section of roadway has a grade steep enough to preclude the existing structure from being replaced with a bridge, and modern design criteria precluded flattening the grade sufficiently to allow for a bridge. The proposed action will replace the existing structure with a RCBC without changing the approximately perpendicular alignment of the crossing. All stream and wetland impacts have been minimized to the maximum practical extent.

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

The proposed 12'x8' RCBC will be buried 1 foot and backfilled with native materials to facilitate aquatic organism passage. Sills are proposed at the inlet and outlet of the RCBC with three baffles spaced evenly every 13' along the culvert in order to maintain the native material backfill. The proposed longitudinal slope of the culvert matches the slope of the existing stream bed, and proposed velocities through the culvert would match existing low flow velocities. A low flow floodplain bench is required with this proposed action.

No staging of construction equipment or storage of construction supplies will be allowed in wetlands. Sediment control fencing will be used where applicable. NCDOT will adhere to Best Management Practices for Construction and Maintenance Activities.

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

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

(•) Yes ( ) No

**2c. If yes, mitigation is required by (check all that apply):**

[ ] DWR [x] Corps

**2d. If yes, which mitigation option(s) will be used for this project?**

[ ] Mitigation bank [x] Payment to in-lieu fee program [ ] Permittee Responsible Mitigation

### 4. Complete if Making a Payment to In-lieu Fee Program

**4a. Approval letter from in-lieu fee program is attached.**

(•) Yes ( ) No

**4b. Stream mitigation requested:**

(linear feet)

82

**4c. If using stream mitigation, what is the stream temperature:**

cold

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

**4d. Buffer mitigation requested (DWR only):**

(square feet)

**4e. Riparian wetland mitigation requested:**

(acres)

0.02

**4f. Non-riparian wetland mitigation requested:**

(acres)

**4g. Coastal (tidal) wetland mitigation requested:**

(acres)

**4h. Comments**

See attached mitigation acceptance letter for details.

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

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

### 1. Diffuse Flow Plan

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

( ) Yes (•) No

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

**If no, explain why:**

Project is located within the French Broad River Basin.

### 2. Stormwater Management Plan

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

(•) Yes ( ) No

**Comments:**

## G. Supplementary Information

### 1. Environmental Documentation

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

(•) Yes ( ) No

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

(•) Yes ( ) No

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

◉ Yes ○ No

## 2. Violations (DWR Requirement)

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

○ Yes ◉ No

## 3. Cumulative Impacts (DWR Requirement)

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

○ Yes ◉ No

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

Due to the minimal transportation impact resulting from this bridge replacement, this project will not stimulate growth, but may influence nearby land use.

## 4. Sewage Disposal (DWR Requirement)

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

○ Yes ○ No ◉ N/A

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

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

◉ Yes ○ No

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

◉ Yes ○ No

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

Asheville

**5d. Is another Federal agency involved?** *

○ Yes ◉ No ○ Unknown

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

○ Yes ◉ No

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

◉ Yes ○ No

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

◉ Yes ○ No

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

◉ Yes ○ No

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

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

○ Yes ◉ No ○ Unknown

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

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

○ Yes ◉ No

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

◉ Yes ○ No

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

USFWS Information for Planning and Consultation (IPaC). An informal Section 7 Concurrence Request was submitted to USFWS on July 12, 2023. May Affect, Not Likely to Adversely Affect is proposed for all bats listed within the project area as well as Appalachian elktoe. The remaining species (bog turtle, Virginia spiraea, and rock gnome lichen) are all No Effect.

In July 2023, the NCDOT Biosurveys Group reviewed the previous bat survey information and bridge report, and confirmed that the while foraging and commuting habitat is present in the area, the bridge remains not suitable habitat for bats (timber with creosote and no crevices).

## 6. Essential Fish Habitat (Corps Requirement)

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

○ Yes ◉ No

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

Review of online mapping sources.

## 7. Historic or Prehistoric Cultural Resources (Corps Requirement)

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

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

○ Yes ◉ No

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

Included Archaeology Form/Letter, Historic Properties and Landscapes Form/Letter, and Tribal Coordination letters.

## 8. Flood Zone Designation (Corps Requirement)

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

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

○ Yes ◉ No

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

FEMA Floodmaps

# Miscellaneous

**Comments**

Per letter dated March 6, 2023, the NCWRC requested adherence to the abbreviated January 1 to April 15 moratorium for stream and buffer disturbance to protect Rainbow Trout spawning.

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

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

B-6013 ePCN attachments.pdf 6.54MB

File must be PDF or KMZ

# Signature

*

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

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

**Full Name:** *

Erin K. Cheely

**Signature** *

Erin K. Cheely

**Date**

7/18/2023

# Permit Drawings

North Carolina Department of Transportation

**Highway Stormwater Program**
**STORMWATER MANAGEMENT PLAN**
**FOR NCDOT PROJECTS**

(Version 3.00; Released August 2021)

**WBS Element:** 48209.3.1 **TIP/Proj No:** B-6013 **County(ies):** Mitchell 

## General Project Information

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **WBS Element:** | 48209.3.1 | **TIP Number:** | B-6013 | **Project Type:** | Bridge Replacement | **Date:** | 2/9/2023 |
| **NCDOT Contact:** | Roger Bryan (Divison Enviromental Officer) | | | **Contractor / Designer:** | TGS Engineers (David B. Petty, PE) | | |
| **Address:** | NCDOT Highway Division 13<br>55 Orange Street<br>Asheville, NC 28801 | | | **Address:** | 706 Hillsborough Street<br>Suite 200<br>Raleigh NC, 27603 | | |
| **Phone:** | 828-250-3005 | | | **Phone:** | 919-773-8887 ext. 104 | | |
| **Email:** | rdbryan@ncdot.gov | | | **Email:** | dpetty@tgsengineers.com | | |
| **City/Town:** | Spruce Pine | | | **County(ies):** | Mitchell | | |
| **River Basin(s):** | French Broad | | | **CAMA County?** | No | | |
| **Wetlands within Project Limits?** | Yes | | | | | | |

## Project Description

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Project Length (lin. miles or feet):** | 0.072 miles | **Surrounding Land Use:** | wooded, farmland, low density residential | | | | |
| | **Proposed Project** | | | **Existing Site** | | | |
| **Project Built-Upon Area (ac.)** | 0.2 | ac. | | 0.1 | ac. | | |
| **Typical Cross Section Description:** | Two 10' paved travel lanes with 2' paved shoulders (4'-0" paved shoulder to guardrail). | | | Two 9' paved travel lanes with 3-4' grassed shoulders. | | | |
| **Annual Avg Daily Traffic (veh/hr/day):** | Design/Future: | | Year: 2045 | Existing: | 1600 | Year: | 2023 |

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

NCDOT Project B-6013 involves the replacement of Structure 600207 over Grassy Creek on SR 1106 (Dale Road) in Mitchell County, NC south of Spruce Pine. The subject crossing involves the replacement of an existing 18’ long by 21’ wide (timber floor on timber joists) single-span bridge to be replaced by 1 @ 12’ (span) X 8’ (rise) Reinforced Concrete Box Culvert (RCBC), buried 1’ with sills and backfilled with native material. The proposed grade will be about 2' above existing ground within the vicinity of the culvert and roughly matching existing ground approximately 210 ft south of the culvert and 170 ft north of the culvert.

The existing bridge discharging directly into the water for the full length of the bridge. Grassed shoulders are to be widened from existing and will be substantially flat allowing for diffusion and infiltration of the roadway runoff. All proposed stormwater runoff is discharged as far away from the stream and at the lowest velocities as practicable.

There are two isolated wetlands and a tributary to Grassy Creek (tributary is only on upstream end of pipe) located south of the bridge that will have minor impacts due to replacement of a failing 24” Corrugated Metal Pipe (CMP) with a 24” Reinforced Concrete Pipe (RCP). There is an additional isolated wetland south of the bridge that will be impacted by proposed roadway fill. All impacts on the project have been minimized to the maximum extent practical.

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 3.00; Released August 2021)



## General Project Information

### Waterbody Information

| | | | | | | |
|---|---|---|---|---|---|---|
| **Surface Water Body (1):** | Grassy Creek | | **NCDWR Stream Index No.:** | 7-2-40 | | |
| **NCDWR Surface Water Classification for Water Body** | | **Primary Classification:** | Class C | | | |
| | | **Supplemental Classification:** | Trout Waters (Tr) | | | |
| **Other Stream Classification:** | None | | | | | |
| **Impairments:** | None | | | | | |
| **Aquatic T&E Species?** | Yes | Comments: | Bog turtle & Appalachian elktoe (Biological Conclusion: Not Required & MANLAA, respectively) per DRAFT NRTR | | | |
| **NRTR Stream ID:** | Grassy Creek | | | **Buffer Rules in Effect:** | N/A | |
| **Project Includes Bridge Spanning Water Body?** | No | **Deck Drains Discharge Over Buffer?** | N/A | **Dissipator Pads Provided in Buffer?** | No | |
| **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) | | | | | | |

North Carolina Department of Transportation

Highway Stormwater Program

**STORMWATER MANAGEMENT PLAN**

FOR NCDOT PROJECTS

(Version 3.00; Released August 2021)

| WBS Element: | 48209.3.1 | TIP/Proj No.: | B-6013 | County(ies): | Mitchell | Page | 3 | of | 3 |
|---|---|---|---|---|---|---|---|---|---|

## Bridge to Culvert Avoidance and Minimization

### Proposed Structure Summary

| | | | | | |
|---|---|---|---|---|---|
| **Sheet No. & Station** | **Sheet No.:** 4 | **Station:** | -L- 14+72 | **Number of Barrels:** | 1 |
| **Drainage Area (ac or sq mi):** | 1.0 sq. mi. | | | **Barrel Width/Diameter (ft):** | 12' 0" |
| **Surface Water Body:** | (1)Grassy Creek | | | **Barrel Height (ft):** | 8' 0" |
| **Culvert Type:** | Reinforced concrete box culvert | | | **Culvert Length (ft)** | 66' +/- |
| **Avoidance and Minimization Efforts: (Bridge to Culvert)** | the culvert is proposed to be buried 1' and backfilled with native materials to facilitate aquatic organism passage. Sills are proposed to contain the native material. The proposed longitudinal slope of the culvert matches the slope of the existing stream. The proposed velocity through the culvert matches existing low flow velocities. | | | | |

### Stream Slope

| | | |
|---|---|---|
| **Existing Average Stream Slope (%):** | 3.30 | % |
| **Proposed Culvert Slope (%):** | 3.30 | % |

### Culvert Burial

| | |
|---|---|
| **Proposed Culvert Burial Depth (ft):** | 1 |
| **Existing Streambed Material:** | Sand, gravel and cobbles |
| **Proposed Sills/Baffles:** | Sills are proposed at the inlet and outlet with 3 baffles spaced evenly every 13' along the culvert. |

### Fish and/or Aquatic Life Passage

| | |
|---|---|
| **Existing Low Flow Channel Dimensions in the Stream:** | 12 ft. wide by 0.5' deep |
| **Proposed Low Flow Dimensions Through the Culvert:** | 12 ft. wide by 0.5' deep |
| **Existing Low Flow Velocities in the Stream (ft/s):** | 4.7 |
| **Proposed Low Flow Velocities Through the Culvert (ft/s):** | 4.8 |
| **Alternating Low Flow Sills/Baffles:** | Sills are proposed to maintain the native material backfill. |

### Culvert/Stream Alignment

| | | |
|---|---|---|
| **Stream Patterns Upstream and Downstream of the Culvert that Could Affect Fish Passage and Bank Stability:** | There are no characteristics up and downstream of the culvert that should affect fish passage. Bank stabilization is proposed. | |
| **Bed Forms Impacted by Culvert (riffles, pools, glides, etc.):** | Culvert is a riffle section of stream. | |
| **Low Flow Floodplain Bench Required? (provide justification)** | Yes | |
| **Bends at Inlet/Outlet? (describe culvert alignment with stream)** | No | fairly straight |
| **Stream Realignment Necessary? (provide justification)** | No | |
| **Bank Stabilization:** | Class II Riprap is called for up and downstream. | |

### Outlet Velocities

| | | | |
|---|---|---|---|
| **Natural Stream Channel 2-yr Velocity (ft/s):** | 6.1 | **Natural Stream Channel 10-yr Velocity (ft/s):** | 7.7 |
| **Proposed Culvert 2-yr Outlet Velocity (ft/s):** | 6.7 | **Proposed Culvert 10-yr Outlet Velocity (ft/s):** | 9.7 |

### Roadway Geometric Considerations

**Evaluate/Describe Roadway Geometric Constraints:**

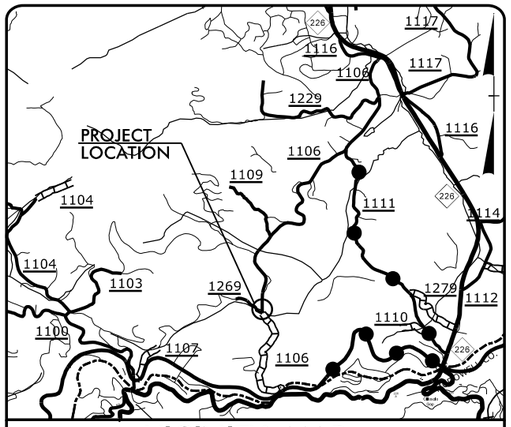
As shown on the roadway profile, this is a very steep roadway grade across this section. This steep grade precluded this structure from being replaced with a bridge. Modern design criteria precluded flattening the grade sufficiently in a practical way to allow for a bridge.

09/08/99

TIP PROJECT: B-6013

CONTRACT: C204406

See Sheet 1A For Index of Sheets




VICINITY MAP

OFFSITE DETOUR

# STATE OF NORTH CAROLINA
# DIVISION OF HIGHWAYS

# *MITCHELL COUNTY*

***LOCATION: BRIDGE #600207 OVER GRASSY CREEK ON SR 1106 (DALE RD)***

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

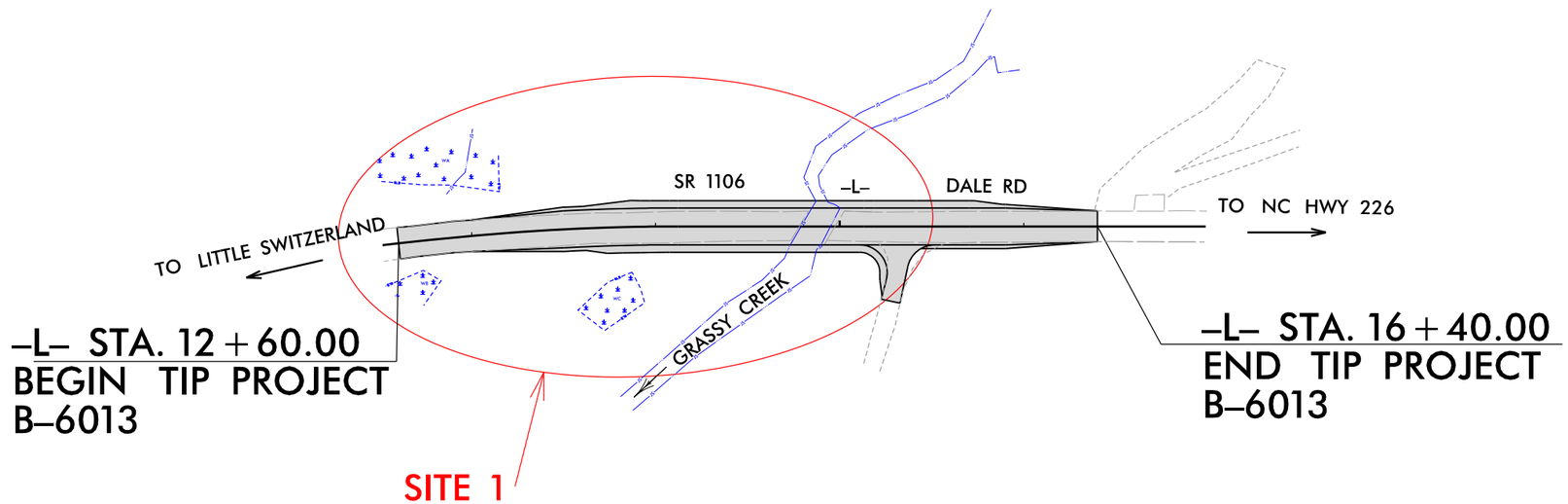
| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|
| N.C. | B-6013 | 1 | |

| STATE PROJ. NO. | F. A. PROJ. NO. | DESCRIPTION |
|---|---|---|
| 48209.3.1 | BRZ-1781(001) | PE |
| 48209.3.1 | BRZ-1781(001) | R/W & UTIL. |
| 48209.3.1 | BRZ-1781(001) | CONST. |

PERMIT DRAWING
SHEET 1 OF 5

## WETLAND AND SURFACE WATER IMPACTS PERMIT

NAD 83/2011




***CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.***

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

***GRAPHIC SCALES***

20 10 0 20 40
PLANS

20 10 0 20 40
PROFILE (HORIZONTAL)

4 2 0 4 8
PROFILE (VERTICAL)

***DESIGN DATA***

ADT 2023 = 1600
T = 10% *
V = 35 MPH
* TTST = 3% DUAL = 3%

FUNC CLASS = LOCAL, RURAL

SUB-REGIONAL TIER

***PROJECT LENGTH***

TOTAL LENGTH TIP PROJECT B-6013 #600207 = 0.072 MILES

***NCDOT CONTACT: EILEEN FUCHS***

***PLANS PREPARED BY:***

TGS ENGINEERS
201 W. MARION ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

R.E. BURNS & SONS CO
P. O. BOX 7168
STATESVILLE, NC 28687
PH (704) 924-8646

*2018 STANDARD SPECIFICATIONS*

***PLANS PREPARED FOR:***

NCDOT
PRIORITY PROJECTS UNIT
1020 Birch Ridge Dr.
Raleigh, NC 27610

JIMMY TERRY, PE
*PROJECT ENGINEER*

DAVID HAMRICK, EIT
*PROJECT DESIGN ENGINEER*

***HYDRAULICS ENGINEER***

P.E.
SIGNATURE:

***ROADWAY DESIGN ENGINEER***

P.E.
SIGNATURE:

***RIGHT OF WAY DATE:***
DEC. 21, 2021

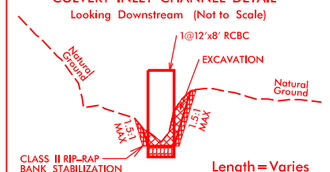
***LETTING DATE:***
DEC. 21, 2021

2/9/2023
X:\NCDOT\Division 13D - Year 8\600207\Hydraulics\PERMITS_Environmental\Drawings\600207_Rdy_tsh.dgn
User:kgray

8/17/99

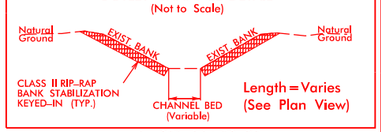
REVISIONS

## DETAIL 4A
CULVERT INLET CHANNEL DETAIL
Looking Downstream (Not to Scale)



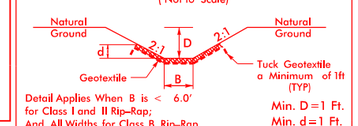

–L– STA. 14+86 LT

## DETAIL 4B
OUTLET CHANNEL DETAIL
(Not to Scale)




–L– STA. 14+58 RT

## DETAIL 4C
STANDARD BASE DITCH
( Not to Scale)




Detail Applies When B is < 6.0' for Class I and II Rip-Rap; And All Widths for Class B Rip-Rap
Min. D = 1 Ft.
Min. d = 1 Ft.
Type of Liner = Class I Rip-Rap, Keyed-In
B = 4 Ft.

FROM –L– STA. 14+56 TO STA. 15+00 RT

NAD 83/2011


TGS ENGINEERS
201 W. MARION ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275


MITCHELL COUNTY
BRIDGE #600207

**PERMIT DRAWING SHEET 2 OF 5**

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| B-6013 | 4 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

**INCOMPLETE PLANS**
DO NOT USE FOR R/W ACQUISITION

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

TEMPORARY STREAM IMPACT

MECHANIZED CLEARING

9 INEZ S. COX

PERMANENT STREAM IMPACT

BURY INVERT 1'
1@12'x8' RCBC BURIED 1.0'
SILLS AT 13' O.C.

CLASS II RIPRAP BANK STABILIZATION 23 TONS (SEE DETAIL 4A)

TEMPORARY STREAM IMPACT

GRADE TO DRAIN

REMOVE HW

GRASSY CREEK (S4)

INV=2788.96

ROCK HW

REMOVE 24" RCP-III

SITE 1

SHOP CURVE R=11'

BURY INVERT 1'

FILL IN WETLANDS

CLASS I RIPRAP 7 TONS, 15 SY GEO

11 JASON DARRELL DALE

CLASS II RIPRAP BANK STABILIZATION 41 TONS (SEE DETAIL 4B)

STANDARD BASE DITCH SEE DETAIL 4C EST. DDE=70 CY

PERMANENT STREAM IMPACT

R=15'

PROP. 10' ASPHALT DRIVE

12 LINDA PITTMAN

CUT TO FILL TRANSITION CLASS I RIPRAP 22 TONS, 30 SY GEO

REMOVE 24"

BEGIN PROJECT B-6013
–L– STA 12+60.00

END PROJECT B-6013
–L– STA 16+40.00

SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS
FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)

40' 0' 40'
GRAPHIC SCALE

### PIPE HYDRAULIC DATA
24" RCP @ –L– Sta.12+77

| | | |
|---|---|---|
| DRAINAGE AREA | = 7.6 | AC |
| DESIGN FREQUENCY | = 25 | YRS |
| DESIGN DISCHARGE | = 12 | CFS |
| DESIGN HW ELEVATION | = 2791.9 | FT |
| 100 YEAR DISCHARGE | = 14 | CFS |
| 100 YEAR HW ELEVATION | = 2792.1 | FT |
| OVERTOPPING FREQUENCY | = 500+ | YRS |
| OVERTOPPING DISCHARGE | = 16+ | CFS |
| OVERTOPPING ELEVATION | = 2796.1 | FT |

END GRADE
–L– STA 16+40.00
ELEV. 2820.12'

EXISTING BRIDGE TO BE REMOVED

PI = 14+65.00
EL = 2,800.00'
VC = 240'
K = 26
DS = 25

PROP. GRADE

BEGIN MILLING & RESURFACING
–L– STA 12+60.00

BEGIN GRADE
–L– STA 13+00.00
ELEV. 2796.21'

(+)1.4917%

(+)2.2983%

EXISTING GRADE

1@12'X8' RCBC

(+) 8.0%

END STANDARD BASE DITCH
–L– STA 15+00 RT
EL=2795.5

BEGIN STANDARD BASE DITCH
–L– STA 14+56 RT
EL=2792.0

BACKFILL TO TOP OF SILLS WITH NATIVE MATERIAL (TYP)

C/L –L– INVERT= 2788.9'

NWS=2791'

PROPOSED 24" RCP-III

### CULVERT HYDRAULIC DATA
(1@12'X8' RCBC @ –L– STA.14+72)

| | | |
|---|---|---|
| DESIGN DISCHARGE | = 400 | CFS |
| DESIGN FREQUENCY | = 25 | YRS |
| DESIGN HW ELEVATION | = 2795.7 | FT |
| BASE DISCHARGE | = 580 | CFS |
| BASE FREQUENCY | = 100 | YRS |
| BASE HW ELEVATION | = 2797.4 | FT |
| OVERTOPPING DISCHARGE | = 440 | CFS |
| OVERTOPPING FREQUENCY | = 25+ | YRS |
| OVERTOPPING ELEVATION | = 2796.1 | FT |

2,822 2,818 2,814 2,810 2,806 2,802 2,798 2,794 2,790 2,786

12 13 14 15 16 17

2/9/2023
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User:roy

8/17/99

REVISIONS

## DETAIL 4A
CULVERT INLET CHANNEL DETAIL
Looking Downstream (Not to Scale)




Length = Varies (See Plan View)

–L– STA. 14+86 LT

## DETAIL 4B
OUTLET CHANNEL DETAIL
(Not to Scale)




Length = Varies (See Plan View)

–L– STA. 14+58 RT

## DETAIL 4C
STANDARD BASE DITCH
( Not to Scale)




Detail Applies When B is < 6.0' for Class I and II Rip-Rap; And All Widths for Class B Rip-Rap

Min. D = 1 Ft.
Min. d = 1 Ft.
B = 4 Ft.

Type of Liner = Class I Rip-Rap, Keyed-In

FROM –L– STA. 14+56 TO STA. 15+00 RT

NAD 83/2011

TGS ENGINEERS
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SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

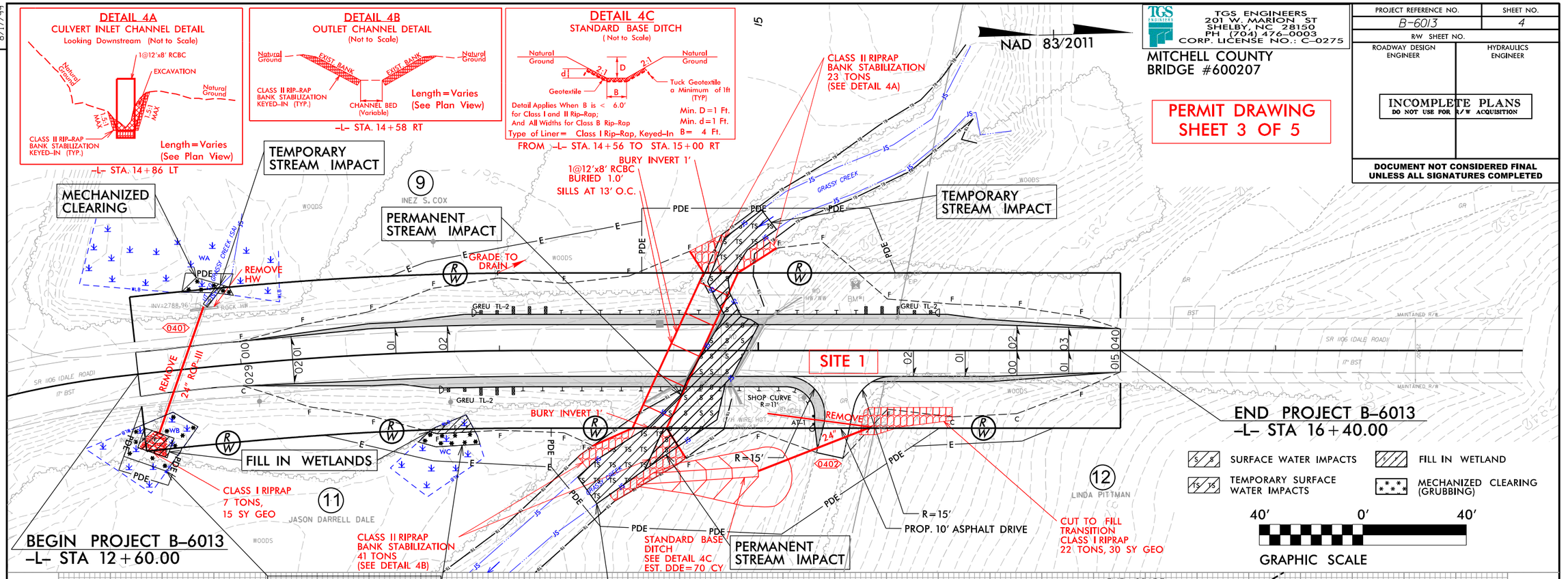
MITCHELL COUNTY
BRIDGE #600207

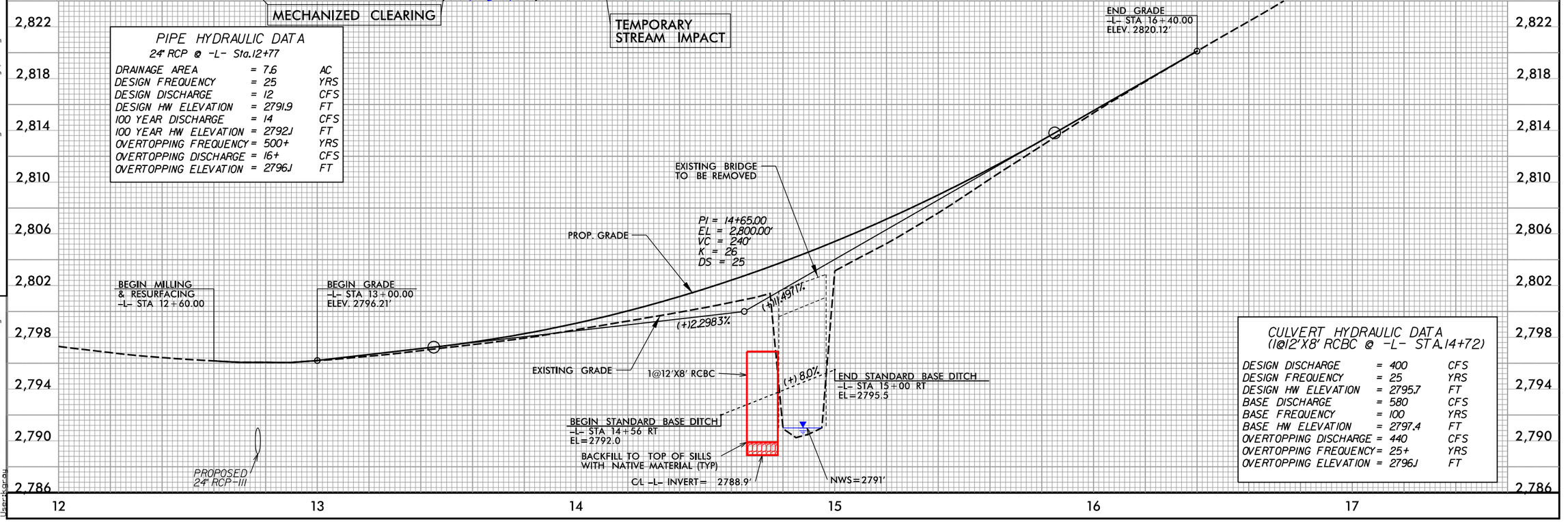
**PERMIT DRAWING SHEET 3 OF 5**

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| B-6013 | 4 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED




### PIPE HYDRAULIC DATA
24" RCP @ –L– Sta.12+77

| | | |
|---|---|---|
| DRAINAGE AREA | = 7.6 | AC |
| DESIGN FREQUENCY | = 25 | YRS |
| DESIGN DISCHARGE | = 12 | CFS |
| DESIGN HW ELEVATION | = 2791.9 | FT |
| 100 YEAR DISCHARGE | = 14 | CFS |
| 100 YEAR HW ELEVATION | = 2792.1 | FT |
| OVERTOPPING FREQUENCY | = 500+ | YRS |
| OVERTOPPING DISCHARGE | = 16+ | CFS |
| OVERTOPPING ELEVATION | = 2796.1 | FT |

### CULVERT HYDRAULIC DATA
(1@12'X8' RCBC @ –L– STA.14+72)

| | | |
|---|---|---|
| DESIGN DISCHARGE | = 400 | CFS |
| DESIGN FREQUENCY | = 25 | YRS |
| DESIGN HW ELEVATION | = 2795.7 | FT |
| BASE DISCHARGE | = 580 | CFS |
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| OVERTOPPING ELEVATION | = 2796.1 | FT |

2/9/2023
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User:roy

5/14/99

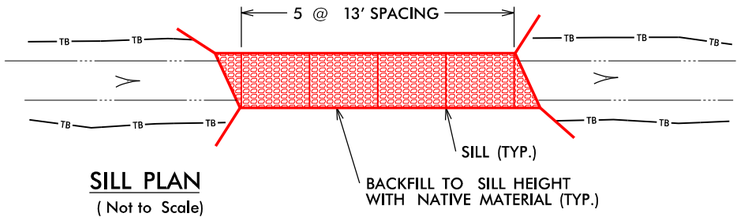
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| B-6013 | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

EXISTING GROUND
PROPOSED GRADE

PERMIT DRAWING
SHEET 4 OF 5

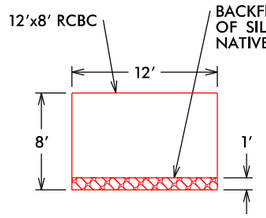
**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275




## SILL PLAN
( Not to Scale)

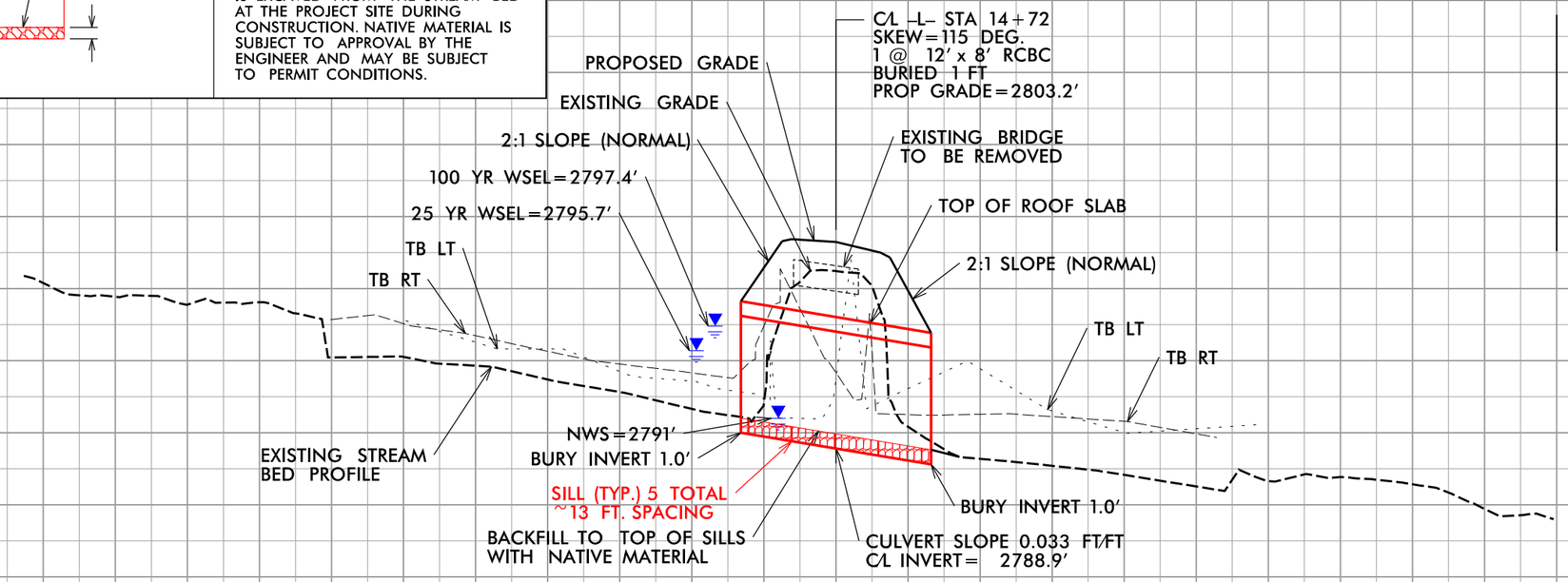
## SILL DETAIL
( Not to Scale)




NOTES:

1) TOP OF SILLS AT EACH END OF CULVERT SHALL MATCH STREAMBED ELEVATION INCHANNEL OF STREAM (THALWEG).

2) NATIVE MATERIAL BETWEEN SILLS IN THE CULVERT SHALL PROVIDE A CONTINOUS FLOW CHANNEL. NATIVE MATERIAL CONSISTS OF MATERIAL THAT IS EXCAVED FROM THE STREAM BED AT THE PROJECT SITE DURING CONSTRUCTION. NATIVE MATERIAL IS SUBJECT TO APPROVAL BY THE ENGINEER AND MAY BE SUBJECT TO PERMIT CONDITIONS.




## SITE 1

2/8/2023
8:43:20 AM
User:rou
I:\NCDOT\Division 13D - Year 8\600207\Hydraulics\PERMITS_Environmental\Drawings\600207_Culvert_PFL.dgn

## WETLAND AND SURFACE WATER IMPACTS SUMMARY

| | | | | WETLAND IMPACTS | | | | | SURFACE WATER IMPACTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Site No. | Station (From/To) | Structure Size / Type | Stream/Wetland Name | 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- 12+51 to 12+81 RT | 24" RCP | WB | < 0.01 | | | < 0.01 | | | | | | |
| | | | | | | | | | | | | | |
| 1 | -L- 12+80 to 12+99 LT | 24" RCP | WA & SA | | | | < 0.01 | | | < 0.01 | | 10 | |
| | | | | | | | | | | | | | |
| 1 | -L- 13+67 to 13+92 RT | Roadway Fill / Erosion Control | WC | < 0.01 | | | < 0.01 | | | | | | |
| | | | | | | | | | | | | | |
| 1 | -L- 14+56 to 14+69 RT | Bank Stabilization | Grassy Creek | | | | | | < 0.01 | | 16 | | |
| | | | | | | | | | | | | | |
| 1 | -L- 14+56 to 15+00 LT & RT | Culvert | Grassy Creek | | | | | | 0.02 | | 66 | | |
| | | | | | | | | | | | | | |
| 1 | -L- 14+30 to 15+07 LT & RT | Temporary Dewatering | Grassy Creek | | | | | | | 0.04 | | 133 | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| TOTALS*: | | | | < 0.01 | | | 0.01 | | 0.02 | 0.04 | 82 | 143 | 0 |

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
2/9/2023
Mitchell County
B-6013
WBS # 48209.3.1
SHEET 5 OF 5

# Mitigation

ROY COOPER
*Governor*
ELIZABETH S. BISER
*Secretary*
MARC RECKTENWALD
*Director*

NORTH CAROLINA
*Environmental Quality*

June 19, 2023

Mr. Yates Allen
NCDOT Division 13 Environmental Specialist
North Carolina Department of Transportation
55 Orange Street
Asheville, North Carolina 28801-2340

Dear Mr. Allen:

Subject: Mitigation Acceptance Letter:

Division 13 Project – TIP Number B-6013, Replace Bridge 600207 on SR 1106 (Dale Road) over Grassy Creek, Mitchell County; WBS 48209.3.1

The purpose of this letter is to notify you that the North Carolina Department of Environmental Quality – Division of Mitigation Services (NCDEQ-DMS) will provide the mitigation for the subject project. Based on the information received from you on June 19, 2023, the impacts are located in CU 06010108 of the French Broad River basin in the Northern Mountains (NM) Eco-Region, and are as follows:

| **French Broad 06010108** | Stream | | | Wetlands | | | Buffer (Sq. Ft.) | |
|---|---|---|---|---|---|---|---|---|
| | Cold | Cool | Warm | Riparian | Non-Riparian | Coastal Marsh | Zone 1 | Zone 2 |
| Impacts (feet/acres) | 82.000 | 0 | 0 | 0.020 | 0 | 0 | 0 | 0 |

**This mitigation acceptance letter replaces the mitigation acceptance letter issued on November 14, 2022.** NCDEQ – DMS commits to implementing sufficient mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies in accordance with the In-Lieu Fee Instrument dated July 28, 2010. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from NCDEQ – DMS.

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-707-8420.

Sincerely,

Elizabeth Harmon

*for* James B. Stanfill
DMS Deputy Director

cc: Ms. Lori Beckwith, USACE – Asheville
Ms. Amy Chapman, NCDWR
Mr. Brad Chilton, NCDOT – EAU
File: SR 1106 – Bridge 600207 Revised – Division 13

# Protected Species/ Section 7

# North Carolina Wildlife Resources Commission

Cameron Ingram, Executive Director

March 6, 2023

Michael Turchy
Environmental Analysis Unit
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, NC 27699-1598

Subject Scoping Comments on Replacement of Bridge No. 207 over Grassy Creek on SR 1106 (Dale Road), Mitchell County. **B-6013**

Dear Mr. Turchy,

The North Carolina Department of Transportation (NCDOT) invited comments from the North Carolina Wildlife Resources Commission (NCWRC) on the subject bridge replacement project. NCWRC biologists are familiar with the wildlife resources in the area. The following comments are offered to conserve wildlife resources affected by the project and to promote wildlife-based recreation in accordance with the applicable provisions of the state and federal Environmental Policy Acts (G.S. 113A-1through 113-10; 1 NCAC 25 and 42 U.S.C. 4332(2)(c), respectively), the Clean Water Act of 1977 (33 U.S.C. 466 et seq.) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

**General Comments**
NCWRC standard recommendations for bridge and culvert replacement projects of this scope include:

1. New bridges or other channel spanning structures are recommended over culverts because they typically require minimal if any stream impacts. The clearances of bridges allow for human access and wildlife passage, fish passage, and navigation by boaters. Unlike bridges, culverts can prove difficult to dewater during construction, which can lead to extended periods of channel instability and erosion.
2. Bridge deck drains should not discharge directly into streams.
3. Live concrete should not be allowed to contact water in or discharging to streams.
4. If possible, bridge supports (bents) should not be placed in stream channels.

**Mailing Address:** Habitat Conservation • 1721 Mail Service Center • Raleigh, NC 27699-1721
**Telephone:** (919) 707-0220 • **Fax:** (919) 707-0028

5. Applicable measures from the current *NCDOT Erosion and Sediment Control Design and Construction Manual* should be implemented and maintained during construction. Matting used in riparian areas should not contain nylon mesh because it entangles and kills wildlife. Coir matting should be used on unstable stream banks that are steep or susceptible to high water and matting should be securely anchored with wooden stakes according to NCDOT specifications.
6. Temporary detours and access roads should be designed and located to avoid wetland impacts, to minimize clearing, and avoid destabilizing stream banks. Tree stumps and root mats should be left where possible under and along temporary access roads to limit streambank disturbance and promote regrowth of vegetation. Temporary fills should be removed to original ground elevations upon the completion of the project. Disturbed areas should be seeded, or mulched, and native tree species should be planted with a spacing of 10'x10'.
7. A clear strip of streambank (rip rap free) of 10 feet in width should remain on each side of the channel underneath bridges to facilitate wildlife passage. Smaller widths are also beneficial where there are narrow abutment setbacks. Alternatively, a "wildlife path" can be constructed with a top-dressing of finer stone if full bank plating is required. These measures should also incorporate any ditch line plating.
8. NCDOT biologists should be notified about streams that contain threatened or endangered species. Special measures to protect these sensitive species may be required. NCDOT should also contact the U.S. Fish and Wildlife Service for information on requirements of the Endangered Species Act as it relates to the project.
9. All work in or adjacent to streams should be conducted in dry work areas. Sandbags, cofferdams, or other clean diversion structures should be used where possible to avoid excavation in flowing water.
10. Heavy equipment should be operated from the banks rather than in stream channels to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams.
11. Only clean, sediment-free rock should be used as temporary fill (causeways) and fill material should be removed with minimal disturbance of the natural stream bottom when construction is completed.
12. During geotechnical investigations, equipment should be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, and hydraulic fluids.

The following recommendations apply to corrugated pipes, reinforced concrete pipes, or concrete box culvert structures:

1. Culverts and pipes must be designed to allow for aquatic life passage in accordance with current *NCDOT Guidelines for Drainage Studies and Hydraulic Design*. This typically includes burial of a single low flow barrel at least 1 foot below the natural streambed and backfilling with native material. If multiple barrels are required, then the high flow barrel(s) should be placed on or near a bankfull elevation. These "flood" barrels should be reconnected to benches and include sills on the upstream ends to restrict or divert base flow into the low barrel. Barrels with sills should be filled with sediment to avoid standing water. If rip rap is used for backfilling, then it should also be topped with native or other finer material to facilitate wildlife passage. In accordance with *NCDOT Guidelines*

*for Drainage Studies and Hydraulic Design*, alternating or notched baffles should typically be installed in base flow culverts that are steep or longer than 40-50 linear feet in a manner that mimics the existing stream flow pattern and profile.

2. Riprap should be minimized on banks and avoided on streambeds except where bed scour may be expected. Rip rap placed on the streambed should be embedded or "keyed-in" to prevent or shorten the duration of subsurface streamflow.
3. If multiple pipes or cells are used, then at least one pipe or box should be designed to remain dry during normal flows to allow for wildlife passage.
4. Culverts or pipes should be aligned with the existing channel alignment whenever possible. Channel widening should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity, disrupts aquatic life passage, and causes sediment deposition that requires increased maintenance.

Replacement of the existing bridge or culvert in the same location with road closure is typically recommended to minimize impacts. If road closure is not feasible, then a temporary detour should be designed and located to avoid wetland impacts, minimize the need for clearing, and avoid destabilizing stream banks. If the structure will be on a new alignment, then the old structure and the approach fills should be removed from the 100-year floodplain. Approach fills should be removed down to the natural ground elevation. The area should be stabilized with grass and planted with native tree species. NCDOT should restore the area to wetlands if the area reclaimed was previously wetlands.

**Project-Specific Comments**

There are records for Rainbow Trout (*Onchorynchus mykiss*) in Grassy Creek (C Tr) near the bridge. This should be a naturally reproducing population. To protect Rainbow Trout spawning, the NCWRC requests adherence to the abbreviated January 1 to April 15 moratorium for stream and buffer disturbance.

Please contact me at david.mchenry@ncwildlife.org or (828) 476-1966 if you have any questions about these comments. Thank you for the opportunity to review and comment on this project. The NCWRC looks forward to assisting as needed as the project develops further.

Cordially,

Dave McHenry, NCWRC Western DOT Coordinator

STATE OF NORTH CAROLINA
# DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

July 12, 2023

Ms. Janet A. Mizzi
Field Office Supervisor
US Fish and Wildlife Service
160 Zillicoa Street
Asheville, NC 28801

Subject: **Section 7 Concurrence Request** for the replacement of Bridge No. 207 on Dale Road (SR 1106) over Grassy Creek in Mitchell County, WBS No. 48208.1.1 in Division 13, **TIP: B-6013**

Reference: Bat Survey Report, dated December 5, 2022
Mussel Survey Report, dated September 17, 2021

Dear Ms. Mizzi,

The purpose of this letter is to request concurrence from the U.S. Fish and Wildlife Service (USFWS) pursuant to Section 7 of the Endangered Species Act (ESA), as amended (16 U.S.C. 1531 et seq.) The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge 207 over Grassy Creek in Mitchell County (35.858980, -82.075412).

As of February 13, 2023, the US Fish and Wildlife Service's Information for Planning and Consultation (IPaC) lists the following federally protected species in the project area.

| Scientific Name | Common Name | Federal Status | Habitat Present | Biological Conclusion |
|---|---|---|---|---|
| *Clemmys muhlenbergii* | Bog turtle | T(S/A) | Yes | Not Required |
| *Myotis septentrionalis* | Northern long-eared bat | Threatened | Yes | MANLTAA |
| *Myotis grisescens* | Gray bat | Endangered | Yes | MANLTAA |
| *Perimyotis subflavus* | Tricolored bat | Proposed Endangered | Yes | MANLTAA |
| *Spiraea virginiana* | Virginia spiraea | Threatened | No | No Effect |
| *Gymnoderma lineare* | Rock gnome lichen | Endangered | No | No Effect |
| *Alasmidonta raveneliana* | Appalachian elktoe | Endangered | Yes | MANLTAA |

MANLTAA = May Affect – Not Likely to Adversely Affect
T(S/A) – Threatened due to similarity of appearance

*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

**Species Summary - Bats**

The North Carolina Department of Transportation (NCDOT, Division 13) proposes to replace Bridge No. 207 over Grassy Creek on SR 1106 in Mitchell County, TIP No. B-6013. The existing bridge is a single span structure with timber beams, deck, end walls and guard rails. The overall length of the bridge is 18 feet. No culverts meeting NCDOT's Standard Operating Procedures for Preliminary Bat Habitat Assessments meeting the criteria of greater than 3 feet wide and 60 feet in length were identified during the site visit.

On May 16, 2019, NCDOT biologists assessed all structures in the project study area. There are no suitable roosting crevices present on this creosote covered timber bridge. No evidence of bats (bats, staining, guano) was observed on the structure. Trees greater than 3" (dbh) occur within the project footprint. There are no known caves or mines within one half mile of the project footprint and no caves or mines were observed during the field visit. Large, continuous forests are present in the project vicinity, providing potential foraging and commuting habitat.

As of December 5, 2022, the following federally protected bat species are listed in IPaC (https://ecos.fws.gov/ipac/) as occurring in the action area:

| Species | Federal Status | Habitat Present* | Biological Conclusion | Distance to Nearest Record** |
|---|---|---|---|---|
| MYGR | E | No | MANLTAA | 5 mile S |
| MYSE | T | Yes | MANLTAA | 7.4 mile S |
| PESU | PE | Yes | MANLTAA | 4.5 mile SW |
| MYLU*** | FL | Yes | MANLTAA | 4.5 mile SW |

*See detailed habitat information in table below
**Nearest known record from latest NHP, WRC, or NCDOT data
*** The Little Brown Bat *(Myotis lucifugus)*, which may become federally listed in the future (FL), may also be found in Mitchell County.
MANLTAA=May Affect Not Likely To Adversely Affect

Presence (✓) or Probable Absence (X) of various habitat types for bat species present in project area.

| Species | Summer Roosting | | Winter Roosting | Foraging Habitat | Commuting Habitat |
|---|---|---|---|---|---|
| | Tree | Structure | | | |
| MYGR | NA | X | X | ✓ | ✓ |
| MYSE | ✓ | X | X | ✓ | ✓ |
| PESU | ✓ | X | X | ✓ | ✓ |
| MYLU | ✓ | X | X | ✓ | ✓ |

A Biological Conclusion of May Affect Not Likely To Adversely Affect is given to each of the above species based on the presence of suitable foraging and commuting habitat.

- No evidence of bats was found on the structure, no caves or mines are in the area, and a large area of alternative available suitable habitat exists in the project vicinity.

- Permanent roadway lighting is not present in the project area and no new roadway lighting is proposed with this bridge replacement project. Although unanticipated, if nighttime work during the bat active season becomes necessary, temporary lighting will only be used to illuminate work areas.

- Tree clearing will occur on this project prior to March 15.

If avoidance and minimization measures, such as prohibiting tree clearing during the active season can be implemented, this project is Not Likely to Adversely Affect federally listed bats.

**Species Summary - Mussels**

According to the NC Natural Heritage Program database (NCNHP, Access date: June 10, 2021), the nearest Appalachian Elktoe element occurrence (EO) (ID # 21349) by water is in the North Toe River approximately 10 miles from the project. The EO, encompasses portions of the North Toe River, the South Toe River, and the Nolichucky River downstream to Cane Bottom near the North Carolina and Tennessee state line (Figure 2).

Surveys were conducted by SEPI personnel Chris Sheats (Permit # 21-ES00558) and Tori Fowler on May 19, 2021.

Visual and tactile methods using bathiscopes were employed to complete the freshwater mussel survey.

Freshwater mussels, including the Appalachian Elktoe, were not observed during the survey efforts. Crayfish, fish, and snails were observed. Fish species observed include Blacknose Dace and Rosyside Dace. Sprite Elimia, a freshwater snail, was abundant throughout the survey.

Grassy Creek ranged in width from 2-3 meters with water depth ranging from 0.25-0.75 meters.

Substrate was dominated by cobble and sand particles while gravel was the subdominant type. The survey reach was a riffle-run complex with few pool habitats present. Water levels were normal, and visibility was clear during surveys. Land use adjacent to the survey reach was 60% forest cover and 40% open pasturelands, within a rural setting.

The survey results indicate that Grassy Creek has some physical habitat conditions and biological indicators that are associated with freshwater mussels, such as a sufficient flow regime, substrate size class diversity (i.e. silt, sand, gravel, and cobble), and the presence of snails. Impacts from adjacent land use (i.e. agriculture, disturbed narrow stream buffer), and a relatively steep stream gradient may be limiting factors for freshwater mussel occupation within the survey reach of Grassy Creek.

**Recommended Biological Conclusion for Appalachian Elktoe:** May Affect Not Likely To Adversely Affect

Habitat for the species was observed but based on the distance to the nearest EO, and the results of the survey, the project may affect, but is not likely to adversely affect the Appalachian Elktoe.

**Species Summary - Plants**

Habitat assessments for Virginia spiraea were completed by Three Oaks staff on January 11, 2023. Suitable habitat for Virginia spiraea is absent within the project study area. Additionally, a review of the NCNHP Winter 2023 dataset identified no known Virginia spiraea EO's within 1.0 mile of the PSA. Based on the absence of Virginia spiraea within the PSA and lack of known EO's within 1.0 mile of the project, the Biological Conclusion for this species is No Effect.

Habitat assessments for rock gnome lichen were completed by Three Oaks staff on January 11, 2023. Suitable habitat for rock gnome lichen is absent within the PSA. A review of the NCNHP Winter 2023 dataset identified no known rock gnome lichen EO's within 1.0 mile of the PSA. As there are no known populations within 1.0 mile of the PSA, and no suitable habitat is present within the PSA, the Biological Conclusion rendered for this species is No Effect

Pursuant to the ESA Handbook Section 3.5, NCDOT does not request concurrence from the Service for the remaining species, but identifies them below:

| Scientific Name | Common Name | Federal Status | Survey Date(s) | Habitat Present | Biological Conclusion |
|---|---|---|---|---|---|
| *Clemmys muhlenbergii* | Bog turtle | T(S/A) | N/A | Yes | Not Required |
| *Spiraea virginiana* | Virginia spiraea | Threatened | N/A | No | No Effect |
| *Gymnoderma lineare* | Rock gnome lichen | Endangered | N/A | No | No Effect |

T(S/A) – Threatened due to similarity of appearance

NCDOT, under the delegation authority provided in 50 CFR § 402.08 by the Federal Highway Administration (FHWA), believes that the requirements of Section 7(a)(2) of the ESA have been satisfied and hereby request your concurrence.

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

Sincerely,

Erin Cheely, ECAP Western Team Lead
Environmental Analysis Unit

Enclosures:
Bat Survey Report
Mussel Survey Report
ec:
Ms. Lauren Wilson, USFWS
Ms. Holland Youngman, USFWS
Mr. Yates Allen, NCDOT Division 13
Ms. Marissa Cox, NCDOT EPU/BSG
Mr. Jared Gray, NCDOT BSG-EAU
Mr. Tyler Stanton, NCDOT BSG-EAU

STATE OF NORTH CAROLINA
# DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

December 5, 2022

TO: Jessica Earley, Project Engineer
Priority Projects Team, PMU

FROM: Melissa Miller, Environmental Program Consultant
Biological Surveys Group, EAU

SUBJECT: Section 7 survey results for the gray bat *(Myotis grisescens, MYGR),* northern long-eared bat *(Myotis septentrionalis, MYSE)*, tricolored bat (*Perimyotis subflavus, PESU*) and little brown bat (*Myotis lucifugus, MYLU*), associated with the replacement of Bridge Number 207 over Grassy Creek on SR 1106 in Mitchell County, **TIP No. B-6013.**

The North Carolina Department of Transportation (NCDOT, Division 13) proposes to replace Bridge No. 207 over Grassy Creek on SR 1106 in Mitchell County, TIP No. B-6013. The existing bridge is a single span structure with timber beams, deck, end walls and guard rails. The overall length of the bridge is 18 feet. No culverts meeting NCDOT's Standard Operating Procedures for Preliminary Bat Habitat Assessments were identified meeting the criteria of greater than 3 feet wide and 60 feet in length during this site visit.

On May 16, 2019, NCDOT biologists assessed all of the structures in the project study area. There are no suitable roosting crevices present on this creosote covered timber bridge. No evidence of bats (bats, staining, guano) was observed on the structure. Trees greater than 3" dbh occur within the project footprint. There are no known caves or mines within one half mile of the project footprint and no caves or mines were observed during the field visit. Large, continuous forests are present in the project vicinity, providing potential foraging and commuting habitat.

*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

As of December 5, 2022, the following federally protected bat species are listed in IPaC (https://ecos.fws.gov/ipac/) as occurring in the action area:

| Species | Federal Status | Habitat Present* | Biological Conclusion | Distance to Nearest Record** |
|---|---|---|---|---|
| MYGR | E | No | MANLTAA | 5 mile S |
| MYSE | T | Yes | MANLTAA | 7.4 mile S |
| PESU | PE | Yes | MANLTAA | 4.5 mile SW |
| MYLU*** | FL | Yes | MANLTAA | 4.5 mile SW |

*See detailed habitat information in table below
**Nearest known record from latest NHP, WRC, or NCDOT data
*** The Little Brown Bat *(Myotis lucifugus)*, which may become federally listed in the future (FL), may also be found in Mitchell County.
MANLTAA=May Affect Not Likely To Adversely Affect

Presence (✓) or Probable Absence (X) of various habitat types for bat species present in project area.

| Species | Summer Roosting | | Winter Roosting | Foraging Habitat | Commuting Habitat |
|---|---|---|---|---|---|
| | Tree | Structure | | | |
| MYGR | NA | X | X | ✓ | ✓ |
| MYSE | ✓ | X | X | ✓ | ✓ |
| PESU | ✓ | X | X | ✓ | ✓ |
| MYLU | ✓ | X | X | ✓ | ✓ |

A Biological Conclusion of May Affect Not Likely To Adversely Affect is given to each of the above species based on the presence of suitable foraging and commuting habitat. No evidence of bats was found on the structure, no caves or mines are in the area, and a large area of alternative available suitable habitat exists in the project vicinity. Permanent roadway lighting is not present in the project area and BSG is not aware of any plans to install new roadway lighting with this project. If nighttime work during the bat active season becomes necessary, temporary lighting will only be used to illuminate work areas. If avoidance and minimization measures, such as prohibiting tree clearing during the active season can be implemented, this project is Not Likely to Adversely Affect federally listed bats.

If you need any additional information, please contact Melissa Miller at 919-707-6127.

# Freshwater Mussel Survey Report

Replace Bridge #207 on SR 1106 (Dale Rd) over Grassy Creek

Mitchell County, North Carolina

Prepared For:

NC Department of Transportation
Raleigh, North Carolina

Contact Person:

**Jared Gray**
Biological Surveys Group-Environmental Analysis Unit
North Carolina Department of Transportation
jgray@ncdot.gov
1598 Mail Service Center
Raleigh, NC 27699-1598

August 2021

Prepared by:

1 Glenwood Avenue, Suite 600
Raleigh, NC 27603

Contact Person:

**Chris Sheats**
csheats@sepiinc.com
919-417-2732

**Table of Contents**



**Appendix A. Figures:**

## 1.0 INTRODUCTION

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge #207 on SR 1106 (Dale Road) over Grassy Creek, of the Nolichucky River Basin in Mitchell County, North Carolina. The Appalachian Elktoe (*Alasmidonta raveneliana*) is listed as Endangered by the United States Fish and Wildlife Service (USFWS) under the Endangered Species Act, and critical habitat has been established. According to the USFWS Information for Planning and Consultation (IPaC) GIS planning tool (IPaC Access date: June 10, 2021), the Appalachain Elktoe is the only listed aquatic species that could be affected by the project.

According to the NC Natural Heritage Program database (NCNHP, Access date: June 10, 2021), the nearest Appalachian Elktoe element occurrence (EO) (ID # 21349) by water is in the North Toe River approximately 10 miles from the project. The EO, encompasses portions of the North Toe River, the South Toe River, and the Nolichucky River downstream to Cane Bottom near the North Carolina and Tennessee state line (Figure 2).

SEPI was contracted by the NCDOT Biological Surveys Group to conduct surveys targeting the Appalachian Elktoe as part of the federal permitting process that requires an evaluation of potential project-related impacts to federally protected species.

## 2.0 WATERS IMPACTED

Grassy Creek is a tributary to the North Toe River, which is a tributary in the Nolichucky River Sub-basin, of the French Broad River Basin (U.S. Geological Survey [USGS] Hydrological Unit Code (06010108).

### *2.1 303(d) Classification*

The N.C. Department of Environmental Quality (NCDEQ) 2020 Final 303(d) list was reviewed to better understand water quality within and upstream of the study area. The portion of Grassy Creek within the project area is on the 303(d) list. Grassy Creek is listed from the source to the North Toe River for exceeding bioclassification thresholds indicating the fish community is in fair, poor, or severe condition (NCDEQ, 2021a).

### *2.2 NPDES Discharges*

There are no actively permitted discharges upstream. The closest discharge is in the headwaters of an unnamed tributary (UT) to Grassy Creek (NCDEQ, 2021b). The Quartz Corp USA (NPDES Permit # NCS000202) is permitted for stormwater discharge into an unnamed tributary to Grassy Creek (Figure 3).

## 3.0 TARGET FEDERALLY PROTECTED SPECIES DESCRIPTION

### *3.1 Alasmidonta raveneliana* (Appalachian Elktoe)

#### *3.1.1 Species Characteristics*

The Appalachian Elktoe is oblong, somewhat kidney-shaped, moderately inflated, and thin-shelled. The anterior margin is sharply rounded, and the posterior margin is broadly rounded, coming to a rounded point close to the posterior ventral margin. The beaks are moderately full, rounded, and situated on the anterior third of the shell slightly above the hinge line. The periostracum varies from yellowish brown in younger individuals to dark brown or black in adults with faint, often interrupted green rays (Bogan, 2002).

#### *3.1.2 Distribution and Habitat Requirements*

The Appalachian Elktoe occurs in tributaries of the Tennessee River Basin in east Tennessee and western North Carolina. In North Carolina, this species is found in the Nolichucky River, Little Tennessee River and the French Broad River Basin (Clarke, 1981). Individuals can be found in habitats composed of sand and gravel substrate among cobbles and boulders, usually in moderate current at depths of less than three feet.

## 4.0 SURVEY EFFORTS

Surveys were conducted by SEPI personnel Chris Sheats (Permit # 21-ES00558) and Tori Fowler on May 19, 2021.

### *4.1 Methodology*

Visual and tactile methods using bathiscopes were employed to complete the freshwater mussel survey. Habitat conditions were recorded throughout the survey area.

## 5.0 RESULTS

Freshwater mussels, including the Appalachian Elktoe, were not observed during the survey efforts. Crayfish, fish, and snails were observed. Fish species observed include Blacknose Dace and Rosyside Dace. Sprite Elimia, a freshwater snail, was abundant throughout the survey. Grassy Creek ranged in width from 2-3 meters with water depth ranging from 0.25-0.75 meters. Substrate was dominated by cobble and sand particles while gravel was the subdominant type. The survey reach was a riffle-run complex with few pool habitats present. Water levels were normal, and visibility was clear during surveys. Land use adjacent to the survey reach was 60% forest cover and 40% open pasturelands, within a rural setting.

## 6.0 DISCUSSION/CONCLUSIONS

The survey results indicate that Grassy Creek has some physical habitat conditions and biological indicators that are associated with freshwater mussels, such as a sufficient flow regime, substrate size class diversity (i.e. silt, sand, gravel, and cobble), and the presence of snails. Impacts from adjacent land use (i.e. agriculture, disturbed narrow stream buffer), and a relatively steep stream gradient may be limiting factors for freshwater mussel occupation within the survey reach. The survey efforts detailed in the report serve to update species information within the surveyed reach of Grassy Creek.

**Recommended Biological Conclusion for Appalachian Elktoe:** May Affect Not Likely To Adversely Affect

Habitat for the species was observed but based on the distance to the nearest EO, and the results of the survey, the project may affect, but is not likely to adversely affect the Appalachian Elktoe.

**Recommended Biological Conclusion for Proposed Critical Habitat:** No Effect

Proposed critical habitat for Appalachian Elktoe is not identified in the study area, suggesting that the proposed project will have no effect on proposed critical habitat for this species.

## 7.0 LITERATURE CITED


Bogan, A.E. 2002. *Workbook and key to the freshwater bivalves of North Carolina.* North Carolina Freshwater Mussel Conservation Partnership, Raleigh, NC 101 pp, 10 color plates.

Clarke, A.H. 1981. The tribe Alasmidontini (Unionidae: Anodontinae), Part I. *Pegias, Alasmidonta,* and *Arcidens. Smithsonian Contributions to Zoology* No. 326. iii + 101 pp.

North Carolina Department of Environmental Quality (NCDEQ) - Division of Water Resources, 2021a. 2021 North Carolina 303(d) List Final. https://deq.nc.gov/about/divisions/water-resources/planning/modeling-assessment/water-quality-data-assessment/integrated-report-files

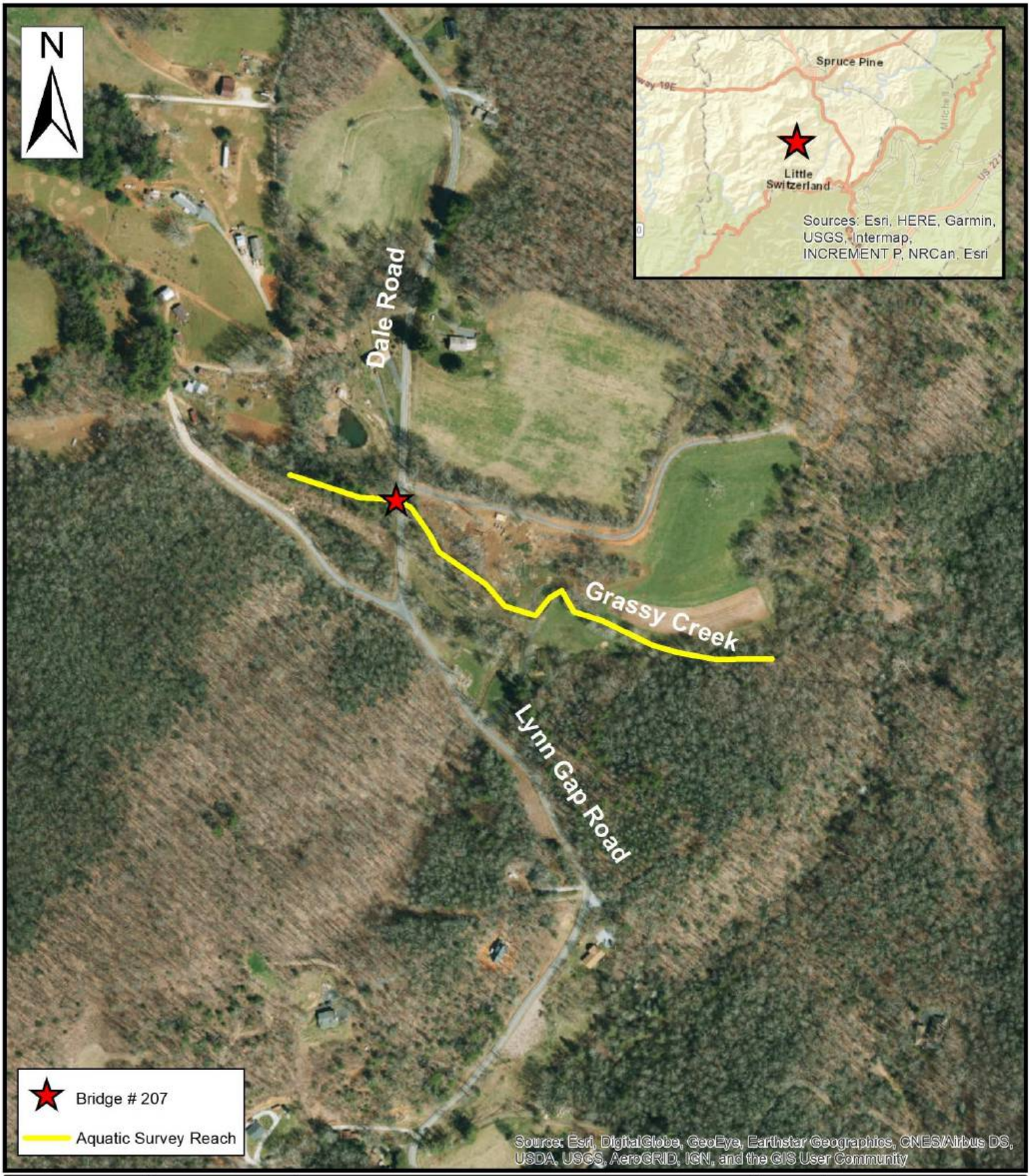
North Carolina Department of Environmental Quality, - Division of Water Resources, 2021b. Online GIS NPDES Stormwater Permits. (Accessed June 10, 2021). https://data-ncdenr.opendata.arcgis.com/datasets/aec2efd41f844be499db8adef43f9fd3_0

North Carolina Natural Heritage Program (NCNHP), 2021. Natural Heritage Element Occurrence. (Accessed June 10, 2021).

United States Fish and Wildlife Service, Information for Planning and Consultation (IPaC) https://ecos.fws.gov/ipac/location/index (Accessed June 10, 2021).

# APPENDIX A

Figures




Prepared By: SEPI

Prepared For: State of North Carolina Department of Transportation

**B-6013**
**Replace Bridge # 207 over Grassy Creek**
**Vicinity Map and Survey Location**

Dale Road (SR 1106) over Grassy Creek

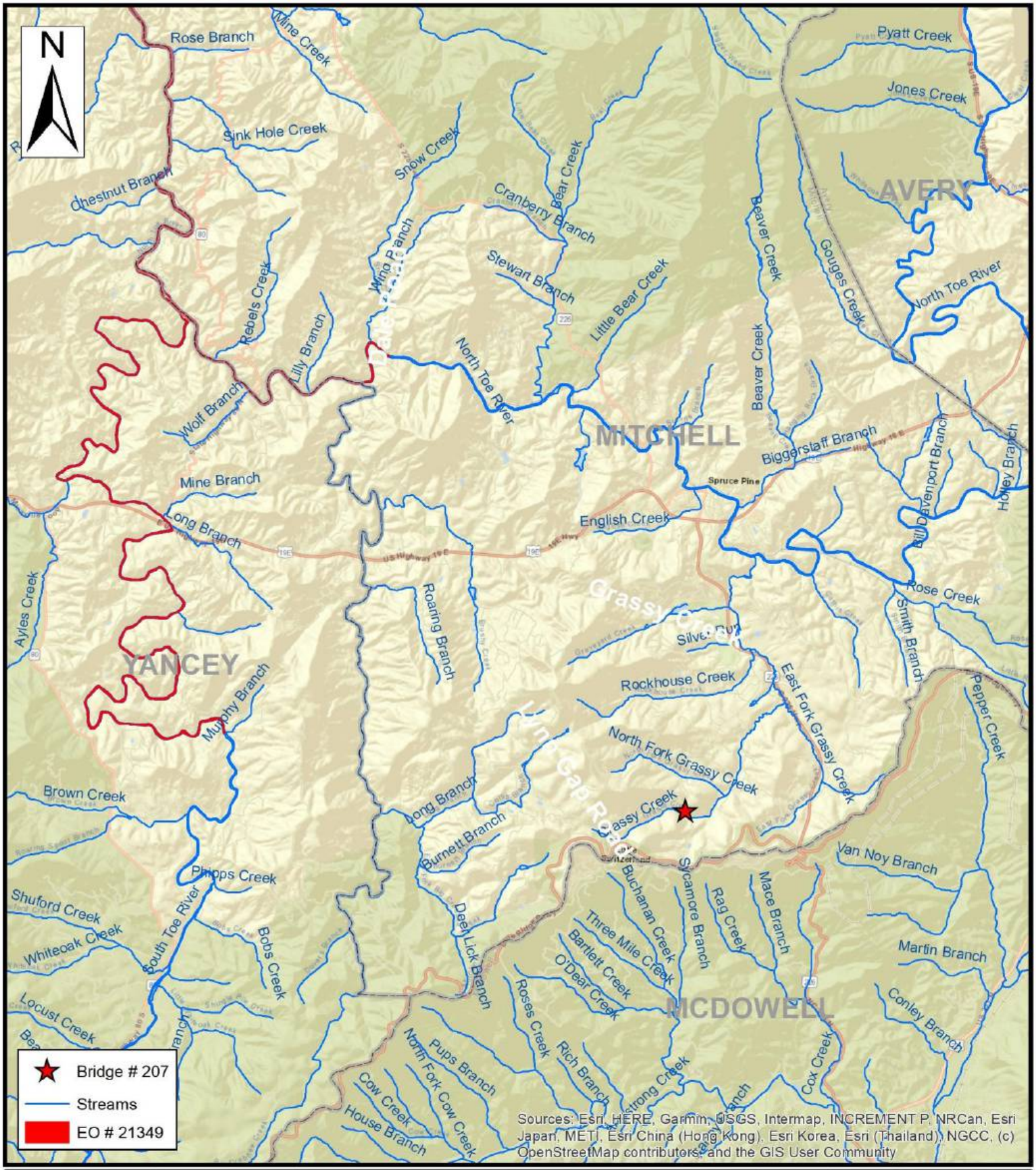
**Mitchell County, North Carolina**

| Created By: | Checked By: |
|---|---|
| VCF | CMS |

Scale: 0 30 60 Meters

Date: August 2021

**Figure 1**




Prepared By: SEPI

Prepared For: State of North Carolina Department of Transportation

**B-6013**
**Replace Bridge # 207 over Grassy Creek**
**NCNHP Element Occurrences**

Dale Road (SR 1106) over Grassy Creek

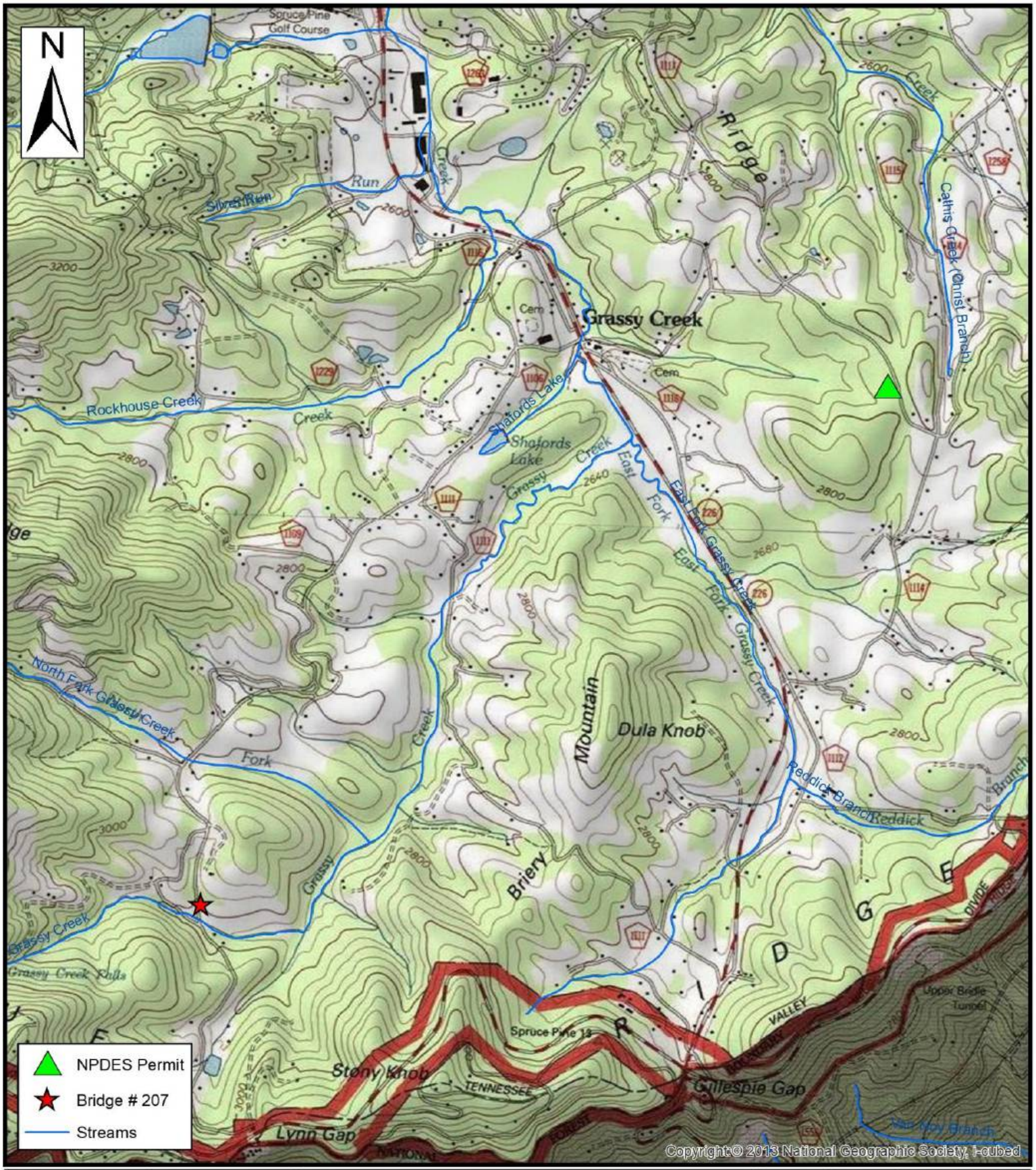
**Mitchell County, North Carolina**

| Created By: | Checked By: |
|---|---|
| VCF | CMS |

Scale: 0 750 1,500 Meters

Date: August 2021

**Figure 2**




Prepared By: SEPI

Prepared For: State of North Carolina Department of Transportation

# B-6013
# Replace Bridge # 207 over Grassy Creek
# NPDES Discharges

Dale Road (SR 1106) over Grassy Creek

**Mitchell County, North Carolina**

| Created By: | Checked By: |
|---|---|
| VCF | CMS |

Scale: 0 175 350 Meters

Date: August 2021

**Figure 3**

# Archaeology

**NO ARCHAEOLOGICAL SURVEY REQUIRED FORM**
This form only pertains to ARCHAEOLOGICAL RESOURCES for this project. It is not valid for Historic Architecture and Landscapes. You must consult separately with the Historic Architecture and Landscapes Group.

# PROJECT INFORMATION

| | | | |
|---|---|---|---|
| *Project No:* | B-6013 | *County:* | Mitchell |
| *WBS No:* | 48208 | *Document:* | Federal Categorical Exclusion |
| *Federal Aid No:* | BRZ-1106(016) | *Funding:* | ☐ State ☒ Federal |
| *Federal Permit Required?* | ☒ Yes ☐ No | *Permit Type:* | USACE |

***Project Description:***

Replace Bridge 207 on SR 1106 (Dale Rd.) over Grassy Creek in Mitchell County. The Area of Potential Effects (A.P.E.) is approximately 97 meters (317 ft.) long and 30 meters (100 ft.) wide. No design plans were provided. The project is Federally-funded and will require Federal permits. Easements will be required.

# SUMMARY OF CULTURAL RESOURCES REVIEW

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

The review included an examination of a topographic map, an aerial photograph, and listings of previously recorded sites, previous archaeological surveys, and previous environmental reviews at the Office of State Archaeology (O.S.A.). Also, a reconnaissance of the project was conducted on 2/5/2019. Bridge 207 is oriented approximately north-south.

The topographic map (Little Switzerland) shows the A.P.E. is located in a moderately-wide creek valley. There is a gently- to moderately-sloped ridge on the north side and a steep slope on the south side. the north side is depicted as cleared, and the south side is wooded.

The aerial photograph shows the A.P.E. is mostly wooded. The north end of the northwest quadrant is a driveway and residential yard. The northeast quadrant is wooded by the creek and cleared (pasture?) at the north end. The southeast quadrant is wooded except for a utility line corridor. The southwest quadrant is wooded except for a utility line corridor.

A reconnaissance of the A.P.E. was conducted by NCDOT archaeologists Scott Halvorsen and Caleb Smith on 2/5/2019. The reconnaissance found that the landforms in the A.P.E. have a low to moderate potential for archaeological sites. The landform on the north side of the bridge is a moderate to steep slope. The northwest quadrant is a sloped ridge from the bridge north for approximately 150 meters (492 ft.) to the ridge top. There is a driveway approximately 50 meters (164 ft.) north of the bridge, and the north half of the quadrant is used as a residential yard. The northeast quadrant is a sloped ridge from the bridge north to the ridge top. There is a driveway approximately 10 meters (32 ft.) north of the bridge. There is a house and yard on the ridge top.

The southeast quadrant is a floodplain from the bridge south for 180 meters (591 ft.). The floodplain looks unstable and/or poorly-drained. The land slopes downhill from the road east to the creek. A small stream joins Grassy Creek approximately 70 meters (230 ft.) south of the bridge. The southwest quadrant is a floodplain from the bridge south for approximately 60 meters (197 ft.), then a steeply-sloped ridge. SR 1107 is approximately 70 meters (230 ft.) south of the bridge. There is a small stream approximately 60 meters (197 ft.) south of the bridge. A powerline runs along the south side of the creek. The floodplain in this quadrant appears to be disturbed and/or poorly-drained.

A review of information at the O.S.A. shows there are no previously recorded archaeological sites near the A.P.E. The A.P.E. is not within any areas that have been surveyed for archaeological sites. There are no projects in the vicinity that have been reviewed by the State Historic Preservation Office (HPO).

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

The landform within the A.P.E. has a low to moderate potential for archaeological sites. The A.P.E. is located in a narrow creek valley with a steep slope on the north side and a poorly-drained floodplain on the south side. The A.P.E. is minimal, and replacement of the bridge will not impact much land outside of the existing roadside.

## SUPPORT DOCUMENTATION

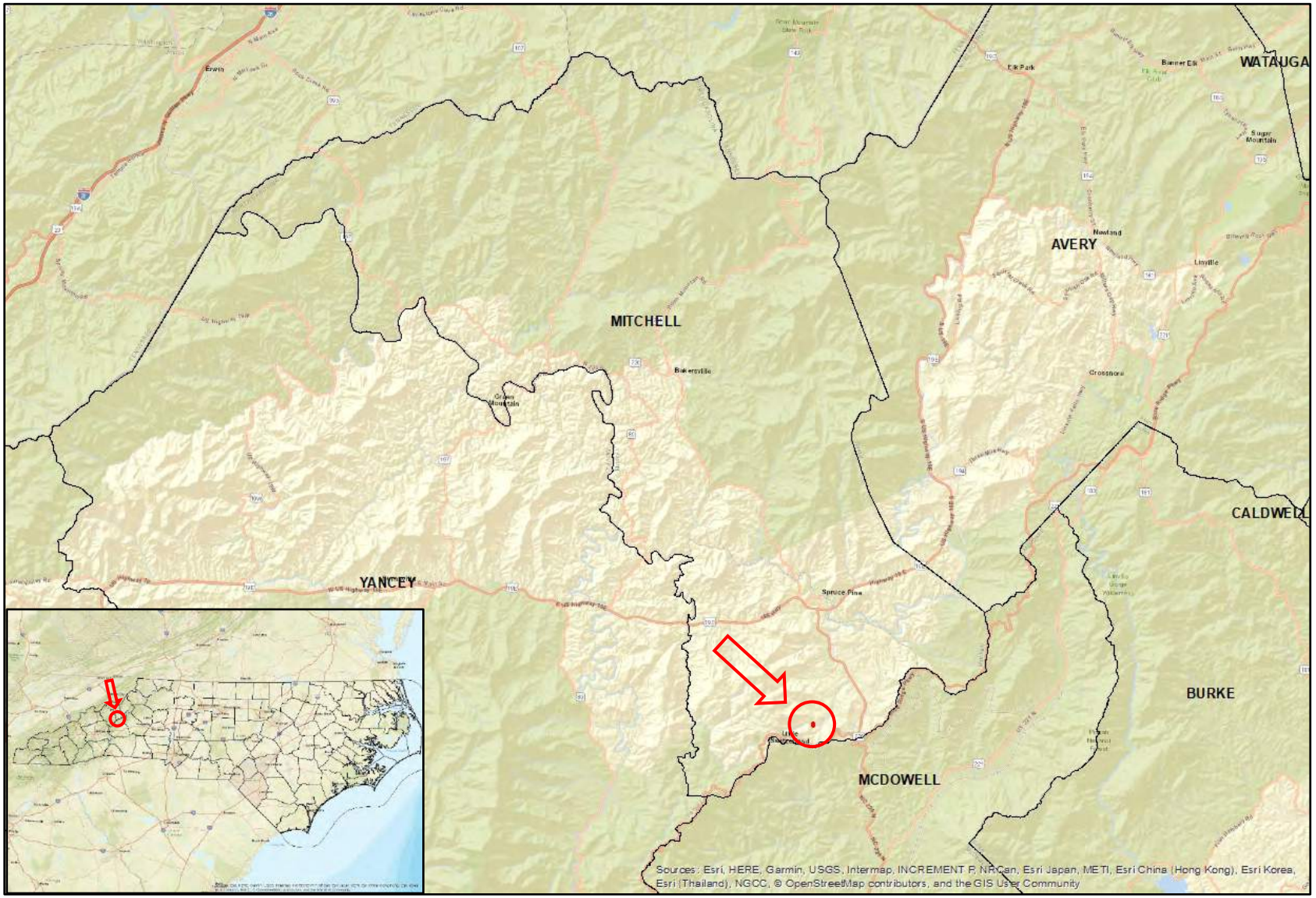
See attached: ☒ Map(s) ☐ Previous Survey Info ☒ Photos ☐ Correspondence
☐ Photocopy of County Survey Notes Other:

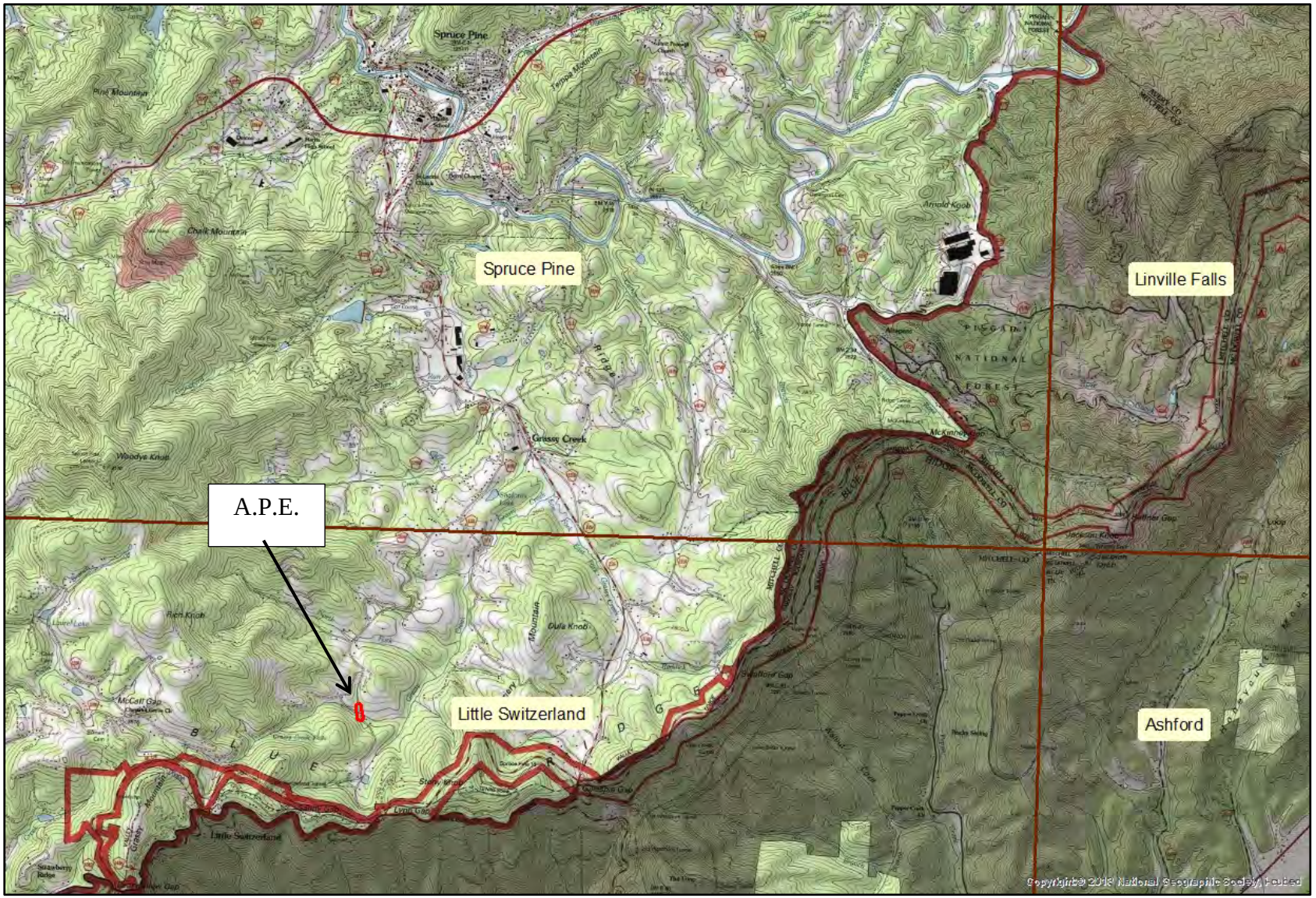
## FINDING BY NCDOT ARCHAEOLOGIST

*NO ARCHAEOLOGY SURVEY REQUIRED*

Caleb Smith 3/28/2019

NCDOT ARCHAEOLOGIST II Date


WATAUGA
AVERY
MITCHELL
YANCEY
CALDWELL
BURKE
MCDOWELL
Spruce Pine
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community


Spruce Pine
Linville Falls
A.P.E.
Little Switzerland
Ashford
Spruce Pine
Chalk Mountain
Pine Mountain
Arnold Knob
Grassy Creek
Woodye Knob
Rich Knob
Gulla Knob
McCall Gap
Little Switzerland
Strawberry Ridge
NATIONAL
FOREST
BLUE
RIDGE
PARKWAY
Copyright © 2013 National Geographic Society, i-cubed


A.P.E.
Grassy
Briery
Grassy Creek Falls
Little Switzerland
Spruce Pine
Stony Knob
TENNESSEE
Sandy Gap
Lynn Gap
Little Switzerland
3000
2800
3400


A.P.E.
Dale Rd SR 1106
Velvis Hollifield Rd SR 1269

Figure 1: North view of Bridge 207.

Figure 2: South view of Bridge 207.

Figure 3: North view of the northwest quadrant.

Figure 4: North view of the northeast quadrant.

Figure 5: South view of the southeast quadrant.

Figure 6: West view of the southwest quadrant.

# Historic Architecture and Landscapes

# HISTORIC ARCHITECTURE AND LANDSCAPES NO SURVEY REQUIRED FORM

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

## PROJECT INFORMATION

| | | | |
|---|---|---|---|
| ***Project No***: | B-6013 | ***County***: | Mitchell |
| ***WBS No.***: | 48208.1.1 | ***Document Type***: | CE |
| ***Fed. Aid No***: | BRZ-1106(016) | ***Funding***: | ☐ State ☒ Federal |
| ***Federal Permit(s):*** | ☒ Yes ☐ No | ***Permit Type(s)***: | |
| ***Project Description***: Replace Bridge No. 207 on SR 1106 (Dale Road) over Grassy Creek. | | | |

## SUMMARY OF HISTORIC ARCHICTECTURE AND LANDSCAPES REVIEW

***Description of review activities, results, and conclusions***:

Review of HPO quad maps, HPO GIS information, historic designations roster, and indexes was undertaken on December 13, 2018. Based on this review, there are no existing NR, SL, LD, DE, or SS properties in the Area of Potential Effects, which is 300' from each end of the bridge and 75' from the centerline each way. There are two mid-20th century brick ranch houses within the APE, and both are unremarkable and do not warrant further evaluation. There are no National Register listed or eligible properties and no survey is required. If design plans change, additional review will be required.

***Why the available information provides a reliable basis for reasonably predicting that there are no unidentified significant historic architectural or landscape resources in the project area***:

HPO quad maps and GIS information recording NR, SL, LD, DE, and SS properties for the Mitchell County survey, Mitchell County GIS/Tax information, and Google Maps are considered valid for the purposes of determining the likelihood of historic resources being present. There are no National Register listed or eligible properties within the APE and no survey is required.

## SUPPORT DOCUMENTATION

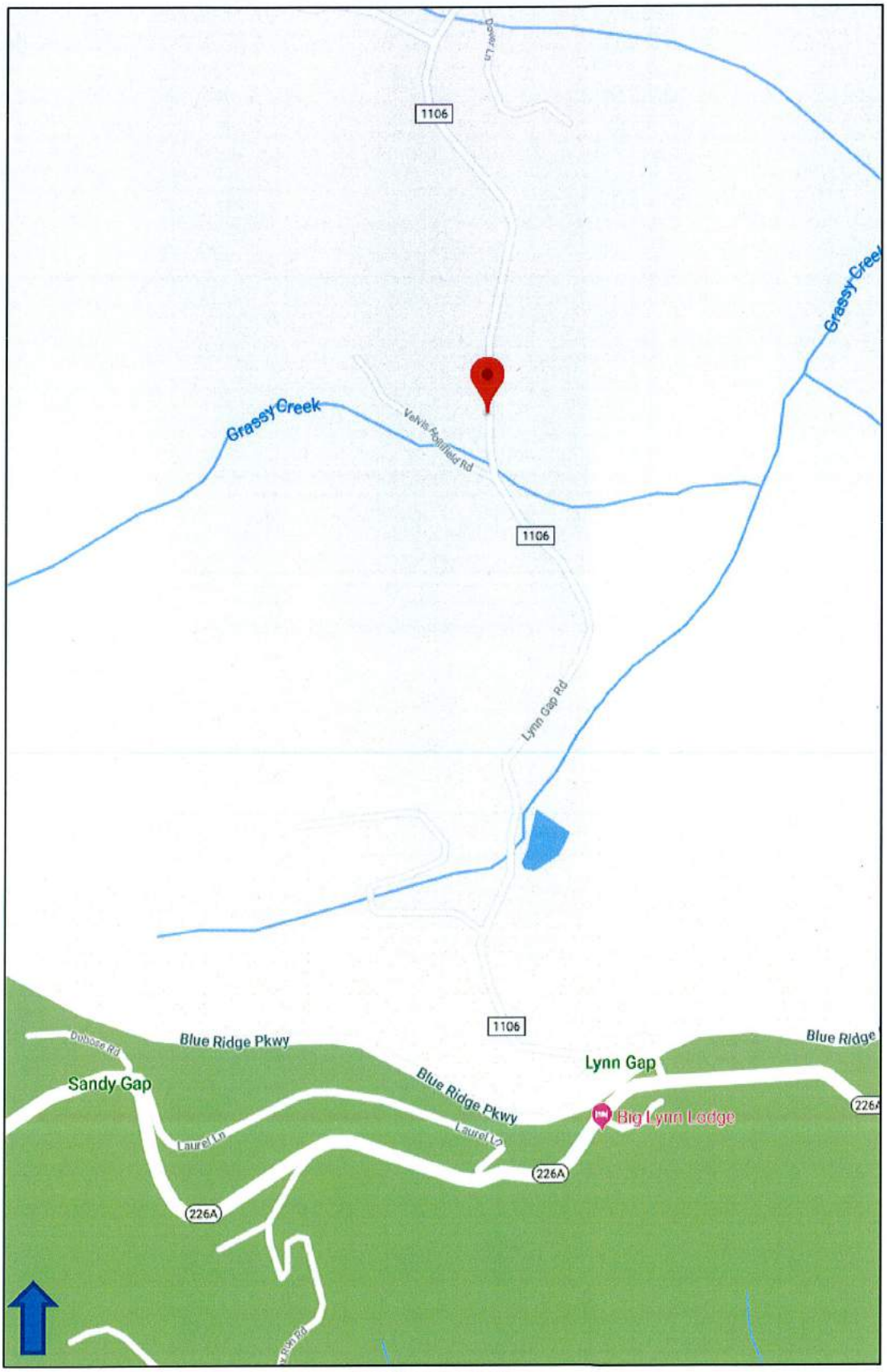
☒ Map(s) ☐ Previous Survey Info. ☐ Photos ☐ Correspondence ☐ Design Plans

## FINDING BY NCDOT ARCHITECTURAL HISTORIAN

Historic Architecture and Landscapes -- NO SURVEY REQUIRED

Kate Husband 12/13/2018

NCDOT Architectural Historian Date




**Project Location.**


**State Historic Preservation Office GIS.**


**Two mid-20th century brick ranch houses north of Bridge No. 207. Not Eligible for NR listing.**

# Tribal Coordination

STATE OF NORTH CAROLINA
# DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

February 17, 2023

Elizabeth Toombs
Tribal Historic Preservation Officer
PO BOX 948
Tahlequah OK 74465

Dear Ms. Toombs,

The North Carolina Department of Transportation is developing the engineering studies for the replacement of Bridge 207 on Dale Road (SR 1106) over Grassy Creek in Mitchell County as project B-6013. The Federal Highway Administration (FHWA) is the lead federal agency for compliance with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA) and a Permit is anticipated under the Section 404 Process with the USACE. A project vicinity map and archaeological survey report is attached.
The coordinates of this project are approximately 35.858972, -82.075417.

We would appreciate any information you might have that would be helpful in evaluating potential environmental impacts of the project.

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

Please respond by March 24th so that your comments can be used in the evaluation of this project. If you have any questions concerning this project, or would like any additional information, please contact me at maturchy@ncdot.gov or (919) 707-6157.

Sincerely,

Michael Turchy
Environmental Coordination and Permitting
Environmental Analysis Unit

ec:
Matt Wilkerson, NCDOT Archaeology Team Leader
Lori Beckwith, USACE Project Manager

*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

STATE OF NORTH CAROLINA
# DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

February 17, 2023

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

Dear Ms. Haire,

The North Carolina Department of Transportation (NCDOT) is developing the engineering studies for the replacement of Bridge No. 207 on Dale Road (SR 1106) over Grassy Creek in Mitchell County as project B-6013. The Federal Highway Administration (FHWA) is the lead federal agency for compliance with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA), and a permit is anticipated under the Section 404 Process with the United States Army Corps of Engineers (USACE). A project vicinity map and archaeological survey report is attached. The coordinates of this project are approximately 35.858972, -82.075417.

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Sincerely,

Michael Turchy
Environmental Coordination and Permitting
Environmental Analysis Unit

ec:
Matt Wilkerson, NCDOT Archaeology Team Leader
Lori Beckwith, USACE Project Manager

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STATE OF NORTH CAROLINA
# DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

February 17, 2023

Russell Townsend
Eastern Band of Cherokee Indians
Tribal Historic Preservation Officer
2077 Governors Island Road
Bryson City, NC 28713

Dear Mr. Townsend,

The North Carolina Department of Transportation (NCDOT) is developing the engineering studies for the replacement of Bridge No. 207 on Dale Road (SR 1106) over Grassy Creek in Mitchell County as project B-6013. The Federal Highway Administration (FHWA) is the lead federal agency for compliance with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA), and a permit is anticipated under the Section 404 Process with the United States Army Corps of Engineers (USACE). A project vicinity map and archaeological survey report is attached. The coordinates of this project are approximately 35.858972, -82.075417.

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Please respond by March 24th so that your comments can be used in the evaluation of this project. If you have any questions concerning this project, or would like any additional information, please contact me at maturchy@ncdot.gov or (919) 707-6157.

Sincerely,

Michael Turchy
Environmental Coordination and Permitting
Environmental Analysis Unit

ec:
Matt Wilkerson, NCDOT Archaeology Team Leader
Lori Beckwith, USACE Project Manager

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STATE OF NORTH CAROLINA
# DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

February 17, 2023

LeeAnne Wendt
Muscogee (Creek) Nation
P.O. Box 580
Okmulgee, OK 74447

Dear Ms. Wendt,

The North Carolina Department of Transportation (NCDOT) is developing the engineering studies for the replacement of Bridge No. 207 on Dale Road (SR 1106) over Grassy Creek in Mitchell County as project B-6013. The Federal Highway Administration (FHWA) is the lead federal agency for compliance with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA), and a permit is anticipated under the Section 404 Process with the United States Army Corps of Engineers (USACE). A project vicinity map and archaeological survey report is attached. The coordinates of this project are approximately 35.858972, -82.075417.

We would appreciate any information you might have that would be helpful in evaluating potential environmental impacts of the project.

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Please respond by March 24th so that your comments can be used in the evaluation of this project. If you have any questions concerning this project, or would like any additional information, please contact me at maturchy@ncdot.gov or (919) 707-6157.

Sincerely,

Michael Turchy
Environmental Coordination and Permitting
Environmental Analysis Unit

ec:
Matt Wilkerson, NCDOT Archaeology Team Leader
Lori Beckwith, USACE Project Manager

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RALEIGH NC 27610

STATE OF NORTH CAROLINA
# DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

February 17, 2023

Acee Watt
United Keetoowah Band of Cherokee Indians
Section 106 Coordinator
P.O. Box 746
Tahlequah, OK 74465

Dear Mr. Watt,

The North Carolina Department of Transportation (NCDOT) is developing the engineering studies for the replacement of Bridge No. 207 on Dale Road (SR 1106) over Grassy Creek in Mitchell County as project B-6013. The Federal Highway Administration (FHWA) is the lead federal agency for compliance with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA), and a permit is anticipated under the Section 404 Process with the United States Army Corps of Engineers (USACE). A project vicinity map and archaeological survey report is attached. The coordinates of this project are approximately 35.858972, -82.075417.

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Sincerely,

Michael Turchy
Environmental Coordination and Permitting
Environmental Analysis Unit

ec:
Matt Wilkerson, NCDOT Archaeology Team Leader
Lori Beckwith, USACE Project Manager

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*Location:*
1000 BIRCH RIDGE DRIVE
RALEIGH NC 27610

# NEPA/SEPA Document

# Type I and II Ground Disturbing Categorical Exclusion Action Classification Form

| | |
|---|---|
| STIP Project No. | **B-6013** |
| WBS Element | **48209.1.1** |
| Federal Project No. | **BRZ-1781 (001)** |

A. Project Description: (Include project scope and location, including Municipality and County. Refer to the attached project location map and photos.)

Bridge Replacement for Bridge 600207 over Grassy Creek on SR 1106 (Lynn Gap Road), Mitchell County, NC. The bridge will be replaced with a single span bridge.

B. Description of Need and Purpose:

The project is needed to replace a structurally deficient bridge.

C. Categorical Exclusion Action Classification: (Check one)

☒ TYPE I

☐ TYPE II

D. Proposed Improvements –

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: (Provide a description of relevant project information, which may include: vicinity map, costs, alternative analysis (if any), traffic control and staging, and resource agency/public involvement).

The project will use stage construction and maintain one travel lane with temporary signals.

F. Project Impact Criteria Checklists:

| Type I & II - Ground Disturbing Actions | | | |
|---|---|---|---|
| FHWA APPROVAL ACTIVITIES THRESHOLD CRITERIA | | | |
| If any of questions 1-7 are marked "yes" then the CE will require FHWA approval. | | Yes | No |
| 1 | Does the project require formal consultation with U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS)? | ☐ | ☒ |
| 2 | Does the project result in impacts subject to the conditions of the Bald and Golden Eagle Protection Act (BGPA)? | ☐ | ☒ |
| 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 of questions 8 through 31 are marked "yes" then additional information will be required for those questions in Section G. | | | |
| Other Considerations | | Yes | No |
| 8 | Does the project result in a finding of "may affect not likely to adversely affect" for listed species, or designated critical habitat under Section 7 of the Endangered Species Act (ESA)? | ☒ | ☐ |
| 9 | Does the project impact anadromous fish? | ☐ | ☒ |
| 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)? | ☐ | ☒ |
| 11 | Does the project impact waters of the United States in any of the designated mountain trout streams? | ☒ | ☐ |
| 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 NHPA effects determination other than a no effect, including archaeological remains? | ☐ | ☒ |

| Other Considerations (continued) | | Yes | No |
|---|---|---|---|
| 15 | Does the project involve hazardous materials and landfills? | ☐ | ☒ |
| 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? | ☐ | ☒ |
| 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? | ☐ | ☒ |
| 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 or the Metropolitan Planning Organization's (MPO's) Transportation Improvement Program (TIP) (where applicable)? | ☐ | ☒ |
| 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), 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's 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

8. The Northern Long-eared Bat (NLEB) is listed as a threatened species on the current U.S. Fish and Wildlife Service (USFWS) list of protected species in Mitchell County. However, the project study area is not located within a county or watershed know to contain NLEB hibernation or maternity roost sites. Therefore, the project has met the criteria required for the USFWS 4(d) Rule, and any associated take is exempt. Due to the exemption under the 4(d)

ruling, it has been determined that the proposed project “May Affect, Not Likely to Adversely Affect” the NLEB.

The Gray bat is listed as endangered (probable/potential) on the USFWS list of proposed species for Mitchell County. The bridge was surveyed for signs of bat presence/usage on April 3, 2019 and no evidence of either was found. Due to the stream size, structure type (steel beams), no evidence of bat usage, and distance from a large river(North Toe River), the project will have “No Effect” on the gray bat.

11. Grassy Creek is within a Corps Designated Trout Watershed and is Class C, Trout by NC DEQ. Since the project is bridge to bridge, stream impacts will be limited to bank stabilization, if necessary.

H. Project Commitments

**Mitchell County**
**Bridge 600207**
**Federal Project No. BRZ-1781(001)**
**WBS No. 48209.1.1**
**TIP No. B-6013**

The project is not likely to affect any properties or archaeological sites listed or eligible for listing on the National Register of Historic Places. NCDOT will complete Section 106 Tribal consultation following completion of the design.

All activities will follow NCDOT best management practices for erosion control.

. Categorical Exclusion Approval

| | |
|---|---|
| STIP Project No. | **B-6013** |
| WBS Element | **48209.1.1** |
| Federal Project No. | **BRZ-1781 (001)** |

**Prepared By:**

4/9/2019
Date

DocuSigned by:
Roger D. Bryan
33212C738EB8411...
Roger D. Bryan
Division Environmental Officer

**Prepared For:** Division 13
North Carolina Department of Transportation

**Reviewed By:**

4/9/2019
Date

DocuSigned by:
45D3FED3257B4CA...
M.K. Calloway
Division Bridge Program Manager

☒ **Approved** — If all of the threshold questions (1 through 7) of Section F are answered "no," NCDOT approves this Categorical Exclusion.

☐ **Certified** — If any of the threshold questions (1 through 7) of Section F are answered "yes," NCDOT certifies this Categorical Exclusion.

4/10/2019
Date

DocuSigned by:
Steve Cannon
0FECB6ABFE95408...
Steve Cannon, P.E.
Project Development Engineer

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

Date

John F. Sullivan, III, PE, Division Administrator
Federal Highway Administration

# HISTORIC ARCHITECTURE AND LANDSCAPES NO SURVEY REQUIRED FORM

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

## PROJECT INFORMATION

| | | | |
|---|---|---|---|
| ***Project No***: | B-6013 | ***County***: | Mitchell |
| ***WBS No.***: | 48208.1.1 | ***Document Type***: | CE |
| ***Fed. Aid No***: | BRZ-1106(016) | ***Funding***: | ☐ State ☒ Federal |
| ***Federal Permit(s):*** | ☒ Yes ☐ No | ***Permit Type(s)***: | |
| ***Project Description***: Replace Bridge No. 207 on SR 1106 (Dale Road) over Grassy Creek. | | | |

## SUMMARY OF HISTORIC ARCHICTECTURE AND LANDSCAPES REVIEW

***Description of review activities, results, and conclusions***:

Review of HPO quad maps, HPO GIS information, historic designations roster, and indexes was undertaken on December 13, 2018. Based on this review, there are no existing NR, SL, LD, DE, or SS properties in the Area of Potential Effects, which is 300' from each end of the bridge and 75' from the centerline each way. There are two mid-20th century brick ranch houses within the APE, and both are unremarkable and do not warrant further evaluation. There are no National Register listed or eligible properties and no survey is required. If design plans change, additional review will be required.

***Why the available information provides a reliable basis for reasonably predicting that there are no unidentified significant historic architectural or landscape resources in the project area***:

HPO quad maps and GIS information recording NR, SL, LD, DE, and SS properties for the Mitchell County survey, Mitchell County GIS/Tax information, and Google Maps are considered valid for the purposes of determining the likelihood of historic resources being present. There are no National Register listed or eligible properties within the APE and no survey is required.

## SUPPORT DOCUMENTATION

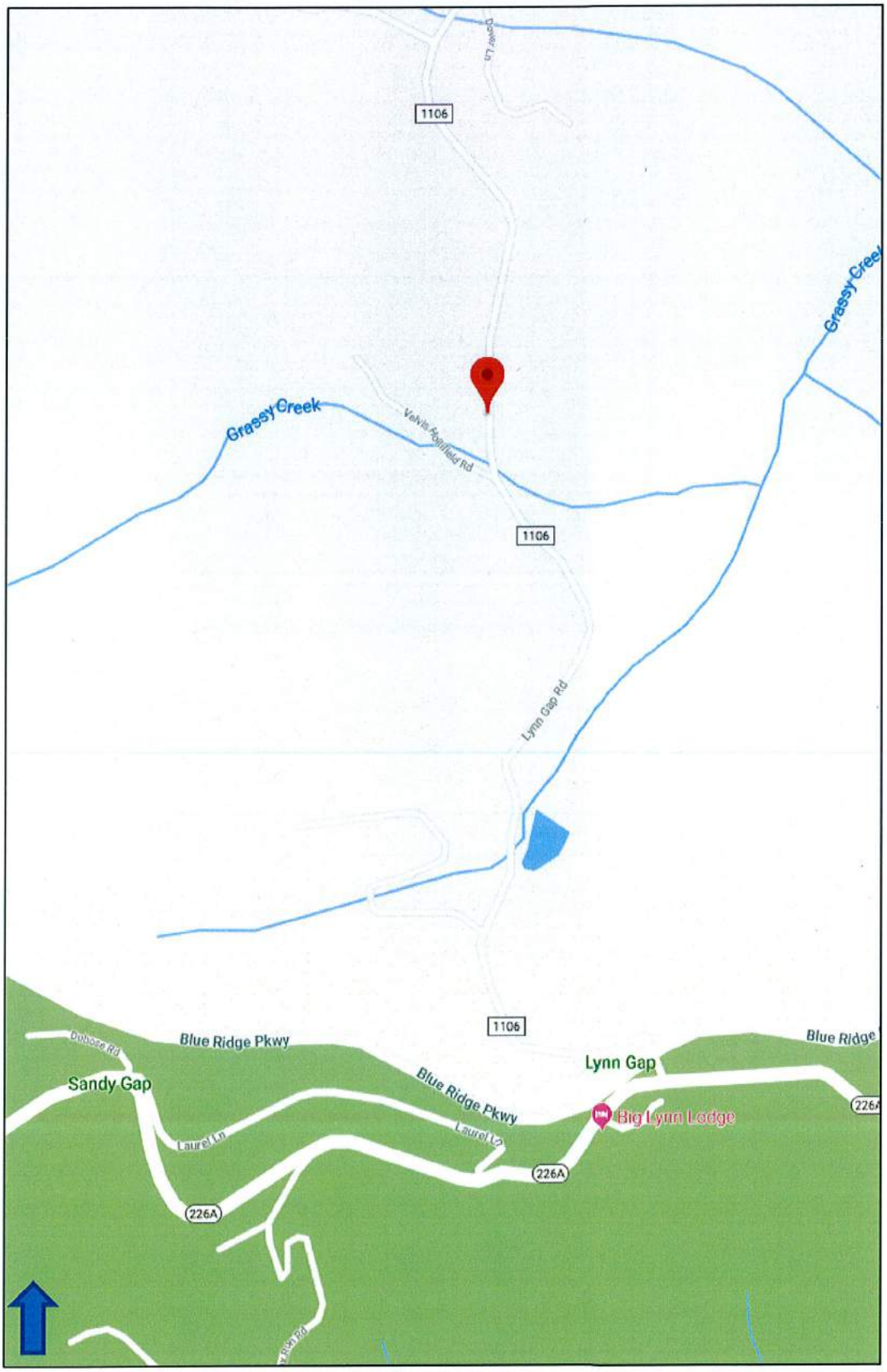
☒ Map(s) ☐ Previous Survey Info. ☐ Photos ☐ Correspondence ☐ Design Plans

## FINDING BY NCDOT ARCHITECTURAL HISTORIAN

Historic Architecture and Landscapes -- NO SURVEY REQUIRED

Kate Husband 12/13/2018

NCDOT Architectural Historian Date




**Project Location.**


**State Historic Preservation Office GIS.**


**Two mid-20th century brick ranch houses north of Bridge No. 207. Not Eligible for NR listing.**

**NO ARCHAEOLOGICAL SURVEY REQUIRED FORM**
This form only pertains to ARCHAEOLOGICAL RESOURCES for this project. It is not valid for Historic Architecture and Landscapes. You must consult separately with the Historic Architecture and Landscapes Group.

# PROJECT INFORMATION

| | | | |
|---|---|---|---|
| *Project No:* | B-6013 | *County:* | Mitchell |
| *WBS No:* | 48208 | *Document:* | Federal Categorical Exclusion |
| *Federal Aid No:* | BRZ-1106(016) | *Funding:* | ☐ State ☒ Federal |
| *Federal Permit Required?* | ☒ Yes ☐ No | *Permit Type:* | USACE |

***Project Description:***

Replace Bridge 207 on SR 1106 (Dale Rd.) over Grassy Creek in Mitchell County. The Area of Potential Effects (A.P.E.) is approximately 97 meters (317 ft.) long and 30 meters (100 ft.) wide. No design plans were provided. The project is Federally-funded and will require Federal permits. Easements will be required.

# SUMMARY OF CULTURAL RESOURCES REVIEW

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

The review included an examination of a topographic map, an aerial photograph, and listings of previously recorded sites, previous archaeological surveys, and previous environmental reviews at the Office of State Archaeology (O.S.A.). Also, a reconnaissance of the project was conducted on 2/5/2019. Bridge 207 is oriented approximately north-south.

The topographic map (Little Switzerland) shows the A.P.E. is located in a moderately-wide creek valley. There is a gently- to moderately-sloped ridge on the north side and a steep slope on the south side. the north side is depicted as cleared, and the south side is wooded.

The aerial photograph shows the A.P.E. is mostly wooded. The north end of the northwest quadrant is a driveway and residential yard. The northeast quadrant is wooded by the creek and cleared (pasture?) at the north end. The southeast quadrant is wooded except for a utility line corridor. The southwest quadrant is wooded except for a utility line corridor.

A reconnaissance of the A.P.E. was conducted by NCDOT archaeologists Scott Halvorsen and Caleb Smith on 2/5/2019. The reconnaissance found that the landforms in the A.P.E. have a low to moderate potential for archaeological sites. The landform on the north side of the bridge is a moderate to steep slope. The northwest quadrant is a sloped ridge from the bridge north for approximately 150 meters (492 ft.) to the ridge top. There is a driveway approximately 50 meters (164 ft.) north of the bridge, and the north half of the quadrant is used as a residential yard. The northeast quadrant is a sloped ridge from the bridge north to the ridge top. There is a driveway approximately 10 meters (32 ft.) north of the bridge. There is a house and yard on the ridge top.

The southeast quadrant is a floodplain from the bridge south for 180 meters (591 ft.). The floodplain looks unstable and/or poorly-drained. The land slopes downhill from the road east to the creek. A small stream joins Grassy Creek approximately 70 meters (230 ft.) south of the bridge. The southwest quadrant is a floodplain from the bridge south for approximately 60 meters (197 ft.), then a steeply-sloped ridge. SR 1107 is approximately 70 meters (230 ft.) south of the bridge. There is a small stream approximately 60 meters (197 ft.) south of the bridge. A powerline runs along the south side of the creek. The floodplain in this quadrant appears to be disturbed and/or poorly-drained.

A review of information at the O.S.A. shows there are no previously recorded archaeological sites near the A.P.E. The A.P.E. is not within any areas that have been surveyed for archaeological sites. There are no projects in the vicinity that have been reviewed by the State Historic Preservation Office (HPO).

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

The landform within the A.P.E. has a low to moderate potential for archaeological sites. The A.P.E. is located in a narrow creek valley with a steep slope on the north side and a poorly-drained floodplain on the south side. The A.P.E. is minimal, and replacement of the bridge will not impact much land outside of the existing roadside.

## SUPPORT DOCUMENTATION

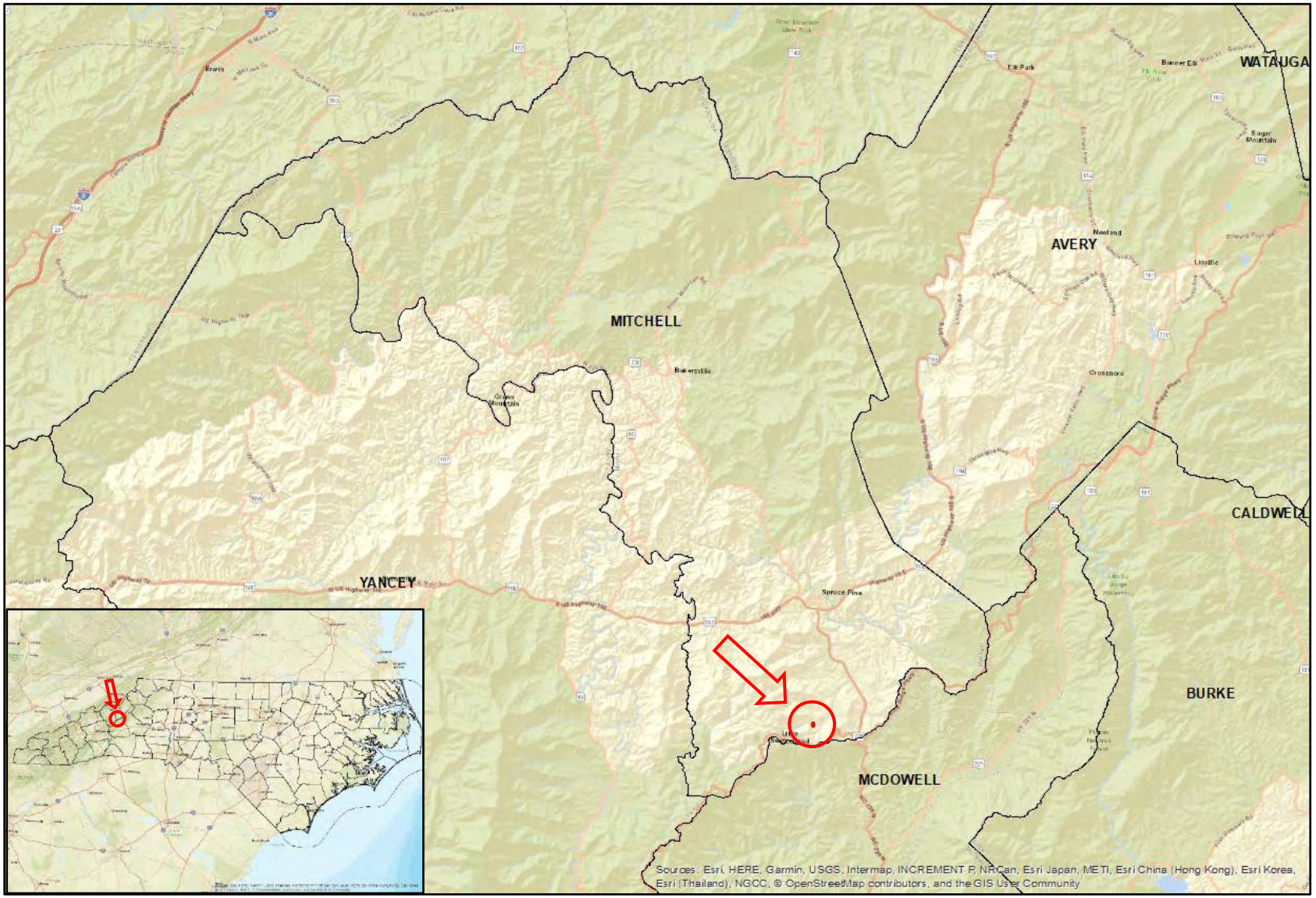
See attached: ☒ Map(s) ☐ Previous Survey Info ☒ Photos ☐ Correspondence
☐ Photocopy of County Survey Notes Other:

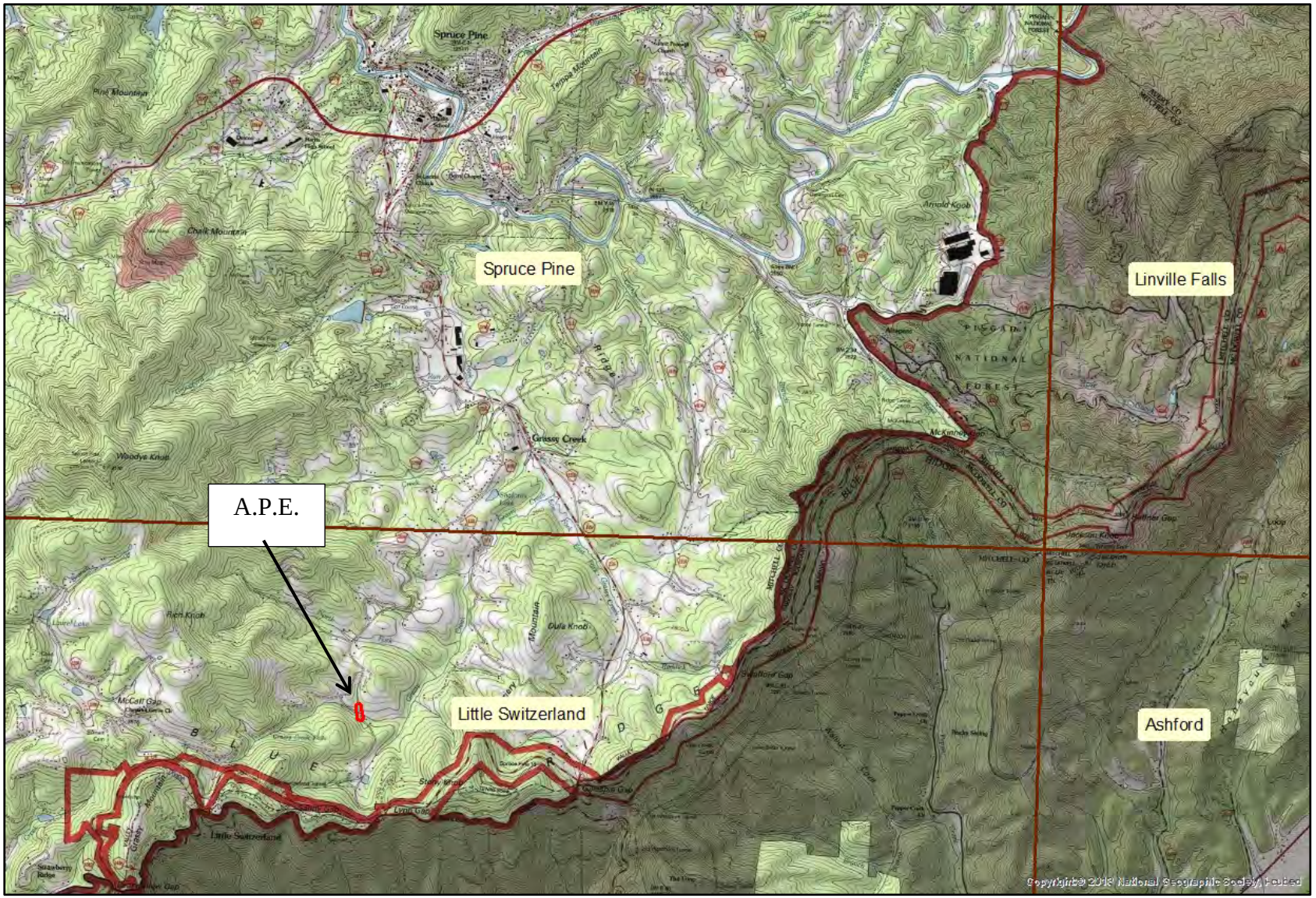
## FINDING BY NCDOT ARCHAEOLOGIST

*NO ARCHAEOLOGY SURVEY REQUIRED*

Caleb Smith 3/28/2019

NCDOT ARCHAEOLOGIST II Date


WATAUGA
AVERY
MITCHELL
YANCEY
CALDWELL
BURKE
MCDOWELL
Spruce Pine
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community


Spruce Pine
Linville Falls
A.P.E.
Little Switzerland
Ashford
Spruce Pine
Chalk Mountain
Pine Mountain
Arnold Knob
Grassy Creek
Woodye Knob
Rich Knob
Gulla Knob
McCall Gap
Little Switzerland
Strawberry Ridge
NATIONAL
FOREST
BLUE
RIDGE
PARKWAY
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A.P.E.
Grassy
Briery
Grassy Creek Falls
Little Switzerland
Spruce Pine
Stony Knob
TENNESSEE
Sandy Gap
Lynn Gap
Little Switzerland
3000
2800
3400


A.P.E.
Dale Rd SR 1106
Velvis Hollifield Rd SR 1269

Figure 1: North view of Bridge 207.

Figure 2: South view of Bridge 207.

Figure 3: North view of the northwest quadrant.

Figure 4: North view of the northeast quadrant.

Figure 5: South view of the southeast quadrant.

Figure 6: West view of the southwest quadrant.