STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

October 17, 2019

U.S. Army Corps of Engineers
Regulatory Field Office
151 Patton Avenue, Room 208
Asheville, NC 28801-5006

ATTN: Ms. Lori Beckwith, NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permit, Section 401 Water Quality Certification** for the Proposed Replacement of Bridge No. 79 on NC 9 over the Broad River in Buncombe County; TIP BR-0009, Division 13, Debit $240 from WBS Element 67009.1.1

Dear Ms. Beckwith:

The North Carolina Department of Transportation (NCDOT) proposes to replace bridge number 79 on NC 9 over the Broad River in Buncombe County with a single span, 65 feet long, cored slab bridge on the current alignment with a temporary bridge to the north of the existing bridge to be utilized as an onsite detour during construction. This action will result in no permanent impacts but there will be 0.01 acre of temporary impacts to surface waters from temporary construction impacts.

Please see enclosed copies of the Pre-Construction Notification (PCN), Stormwater Management Plan, and Permit Drawings. A Minimum Criteria Determination Checklist (MCDC) was completed in February 2019 and distributed shortly thereafter. Additional copies are available upon request.

This project calls for a letting date of April 21, 2020 and a review date March 3, 2020.

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

A copy of this permit application and its distribution list will be posted on the NCDOT Website at: http://connect.ncdot.gov/resources/Environmental. If you have any questions or need additional information, please call Jeff Hemphill at (919) 707-6126.

Sincerely,

for Philip S. Harris III, P.E., C.P.M.
Environmental Analysis Unit Head

cc:
NCDOT Permit Application Standard Distribution List

Pre-Construction Notification (PCN) Form

For Nationwide Permits and Regional General Permits

(along with corresponding Water Quality Certifications)

September 29, 2018 Ver 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

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

Buncombe

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:

BR-0009

WBS #*

67009.1.1

(for NCDOT use only)

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

[x] Section 404 Permit (wetlands, streams and waters, Clean Water Act)

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

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

[x] Nationwide Permit (NWP)

[ ] Regional General Permit (RGP)

[ ] Standard (IP)

This form may be used to initiate the standard/individual permit process with the Corps. Please contact your Corps representative concerning submittals for standard permits. All required items that are not provided in the E-PCN can be added to the miscellaneous upload area located at the bottom of this form.

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

(•) Yes ( ) No

Nationwide Permit (NWP) Number: 33 - Temporary Construction

NWP Numbers (for multiple NWPS):

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

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

check all that apply

[x] 401 Water Quality Certification - Regular

[ ] Non-404 Jurisdictional General Permit

[ ] Individual Permit

[ ] 401 Water Quality Certification - Express

[ ] Riparian Buffer Authorization

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

*

For the record only for DWR 401 Certification: ( ) Yes (•) No

For the record only for Corps Permit: ( ) Yes (•) No

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

( ) Yes (•) No

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

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

○ Yes ◉ No

Acceptance Letter Attachment

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

FILE TYPE MUST BE PDF

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

○ Yes ◉ No

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

◉ Yes ○ No

You must submit a copy 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?*

NCDOT

1b. Primary Contact Email:*

jhemphill@ncdot.gov

1c. Primary Contact Phone:*

(xxx)xxx-xxxx

(919)707-6126

1d. Who is applying for the permit?*

☑ Owner ☐ 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:*

N/A

2b. Deed book and page no.:

2c. Responsible party:

(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

Wake

2e. Telephone Number:*

(xxx)xxx-xxxx

(919)707-6126

2f. Fax Number:

(xxx)xxx-xxxx

2g. Email Address:*

pharris@ncdot.gov

C. Project Information and Prior Project History

1. Project Information

1a. Name of project:*

Replacement of Bridge #100079 on NC9 over the Broad River

1b. Subdivision name:

(if appropriate)

1c. Nearest municipality / town:*

Black Mountain

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: *

35.525473

ex: 34.208504

Longitude: *

-82.250963

-77.796371

3. Surface Waters

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

Broad River

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

C;Tr

Surface Water Lookup

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

Broad

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

030501050301

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: *

Rural residential with forested land.

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

○ Yes ◉ No ○ Unknown

4d. Attach an 8 1/2 X 11 excerpt from the most recent version of the USGS topographic map indicating the location of the project site. (for DWR)

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

File type must be pdf

4e. Attach an 8 1/2 X 11 excerpt from the most recent version of the published County NRCS Soil Survey map depicting the project site. (for DWR)

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

File type must be pdf

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

0.00

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

(intermittent and perennial)

1,537'

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

The purpose of the proposed project is to replace a deficient bridge. Bridge No. 168 is considered structurally deficient with a sufficiency rating of 32.31 out of 100. Being structurally deficient does not mean that the bridge is unsafe, but does mean the bridge is in need of repair or replacement. As a bridge ages, the cost of repairs and continued maintenance eventually necessitate the need for replacement. The current bridge was constructed in 1929 and is reaching the end of its useful life.

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

A new bridge will be constructed on the current alignment with a temporary bridge installed to the north of the existing bridge to serve as an onsite detour during construction. The proposed replacement bridge is a single span, 65 feet long, 33' 6" wide, cored slab bridge. Typical road building equipment such as trucks, dozers, and cranes will be used to construct the bridge.

4j. Please upload project drawings for the proposed project.

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

BR-0009 PCN Cover Letter.pdf	211.73KB
BR-0009 Permit Drawings.pdf	1.42MB

File type must be pdf

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): Scott Shifflett

Agency/Consultant Company: ATCS

Other:

5d1. Jurisdictional determination upload

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

File type must be PDF

6. Future Project Plans

6a. Is this a phased project? *

( ) Yes (•) No

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

D. Proposed Impacts Inventory

1. Impacts Summary

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

☐ Wetlands ☑ Streams-tributaries ☐ Buffers

☐ Open Waters ☐ Pond Construction

3. Stream Impacts

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

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

	3a. Reason for impact * (?)	3b.Impact type *	3c. Type of impact *	3d. S. name *	3e. Stream Type * (?)	3f. Type of Jurisdiction *	3g. S. width *	3h. Impact length *
S1	Detour Bridge	Temporary	Other	Broad River	Perennial	Both	36 Average (feet)	60 (linear feet)
S2	Bridge Abutment Removal	Temporary	Other	Broad River	Perennial	Both	36 Average (feet)	50 (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:

0

3i. Total temporary stream impacts:

110

3i. Total stream and ditch impacts:

110

3j. Comments:

Workers may need to enter the water for abutment removal and Temporary Detour Bridge installation and removal.

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: *

Current structure has abutments at waters edge. The new structure will be longer and therefore will increase the hydraulic opening at this crossing. Permanent impacts to the Broad River were avoided in the design process with both the proposed bridge and the detour bridge spanning the river. No deck drains discharge directly over Broad River. NCDOT will adhere to Design Standards in Sensitive Watersheds.

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

Best Management Practices will be adhered to.

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

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

○ Yes ◉ No

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

There are no permanent impacts from this project.

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

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

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

1. Diffuse Flow Plan

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

○ Yes ◉ No

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

If no, explain why:

2. Stormwater Management Plan

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

◉ Yes ○ No

Comments:

G. Supplementary Information

1. Environmental Documentation

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

◉ Yes ○ No

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

◉ Yes ○ No

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

○ Yes ◉ No

Comments: *

.

2. Violations (DWR Requirement)

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

○ Yes ◉ No

3. Cumulative Impacts (DWR Requirement)

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

○ Yes ◉ No

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

4. Sewage Disposal (DWR Requirement)

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

○ Yes ○ No ◉ N/A

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

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

◉ Yes ○ No

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

○ Yes ◉ No

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 county list, Bat Memo (attached) - No effect for aquatic species (Appalachian elktoe, Tan riffleshell, Spotfin chub don't occur in the Broad River Basin) - limited habitat for Virginia spiraea though no specimens were recorded during a July 2019 Field visit.

Consultation Documentation Upload

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

BR-0009 BAT memo.pdf 221.93KB

File type must be PDF

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? *

NMFS County Index

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? *

SEPA Documentation

7c. Historic or Prehistoric Information Upload

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

File must be PDF

8. Flood Zone Designation (Corps Requirement)

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

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

(•) Yes ( ) No

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

NCDOT Hydraulics Unit coordination with FEMA

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

FEMA Maps

Miscellaneous

Comments

Miscellaneous attachments not previously requested.

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

File must be PDF or KMZ

Signature

*

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

- I have given true, accurate, and complete information on this form;
- I agree that submission of this PCN form is a “transaction” subject to Chapter 66, Article 40 of the NC General Statutes (the “Uniform Electronic Transactions Act”);
- I agree to conduct this transaction by electronic means pursuant to Chapter 66, Article 40 of the NC General Statutes (the “Uniform Electronic Transactions Act”);
- I understand that an electronic signature has the same legal effect and can be enforced in the same way as a written signature; AND
- I intend to electronically sign and submit the PCN form.

Full Name: *

Michael Turchy

Signature

Date

10/17/2019

North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS

(Version 2.08; Released April 2018)

WBS Element:	67009.1.1	TIP No.:	BR-0009	County(ies):	Buncombe	Page	1	of	1

General Project Information

WBS Element:	67009.1.1	**TIP Number:**	BR-0009	**Project Type:**	Bridge Replacement	**Date:**	7/11/2019
NCDOT Contact:	Mike Calloway			**Contractor / Designer:**	TGS Engineers (Rusty Lassiter)		
Address:	20 Old 74 Asheville, NC 28803			**Address:**	706 Hillsborough Street Suite 200 Raleigh, NC 27603		
Phone:	828-298-2741			**Phone:**	919-773-8887 ext. 121		
Email:	mkcalloway@ncdot.gov			**Email:**	rlassiter@tgsengineers.com		
City/Town:	Black Mountain, NC			**County(ies):**	Buncombe		
River Basin(s):	Broad			**CAMA County?**	No		
Wetlands within Project Limits?	No						

Project Description

Project Length (lin. miles or feet):	623 ft.	**Surrounding Land Use:**	Mountainous; Rural

	Proposed Project	Existing Site
Project Built-Upon Area (ac.)	0.5 ac.	0.3 ac.
Typical Cross Section Description:	Two 11' paved travel lanes with 6' grass shoulders (9' with guardrail). On site detour will have single 11' paved travel lane with 2' grass shoulders (4' with guardrail).	Two 9' paved travel lanes with 4' grass shoulders.
Annual Avg Daily Traffic (veh/hr/day):	Design/Future: 1420 Year: 2025	Existing: 710 Year: 2013

General Project Narrative: (Description of Minimization of Water Quality Impacts)	Replacement of Bridge No. 100079 on HWY NC 9 over Broad River in Buncombe County, NC. The proposed 65' long by 33'-6" wide single span bridge would replace the existing 43' long by 26' wide single span bridge. The proposed grade will be +/- 2.0' above existing ground within the vicinity of the bridge and graded until it matches the existing ground +/- 100' from the centerline in both directions @ STA. 12+94.7 -L-. On site detour to be constructed upstream of existing crossing with proposed 68' long by 15' wide single span temporary bridge.

Waterbody Information

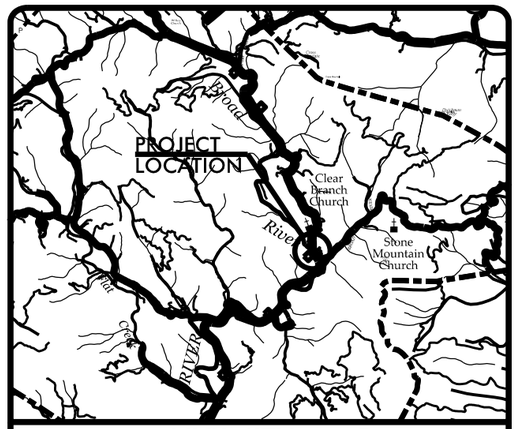
Surface Water Body (1):	Broad River		**NCDWR Stream Index No.:**	9-(1)	
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C		
		Supplemental Classification:	Trout Waters (Tr)		
Other Stream Classification:					
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	N/A			**Buffer Rules in Effect:**	N/A
Project Includes Bridge Spanning Water Body?	Yes	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A
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)					

09/08/99

TIP PROJECT: BR-0009

CONTRACT:

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Plan Sheet Symbols
See Sheet 1C-1 For Survey Control Sheet



VICINITY MAP
OFFSITE DETOUR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BUNCOMBE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BR-0009	1	

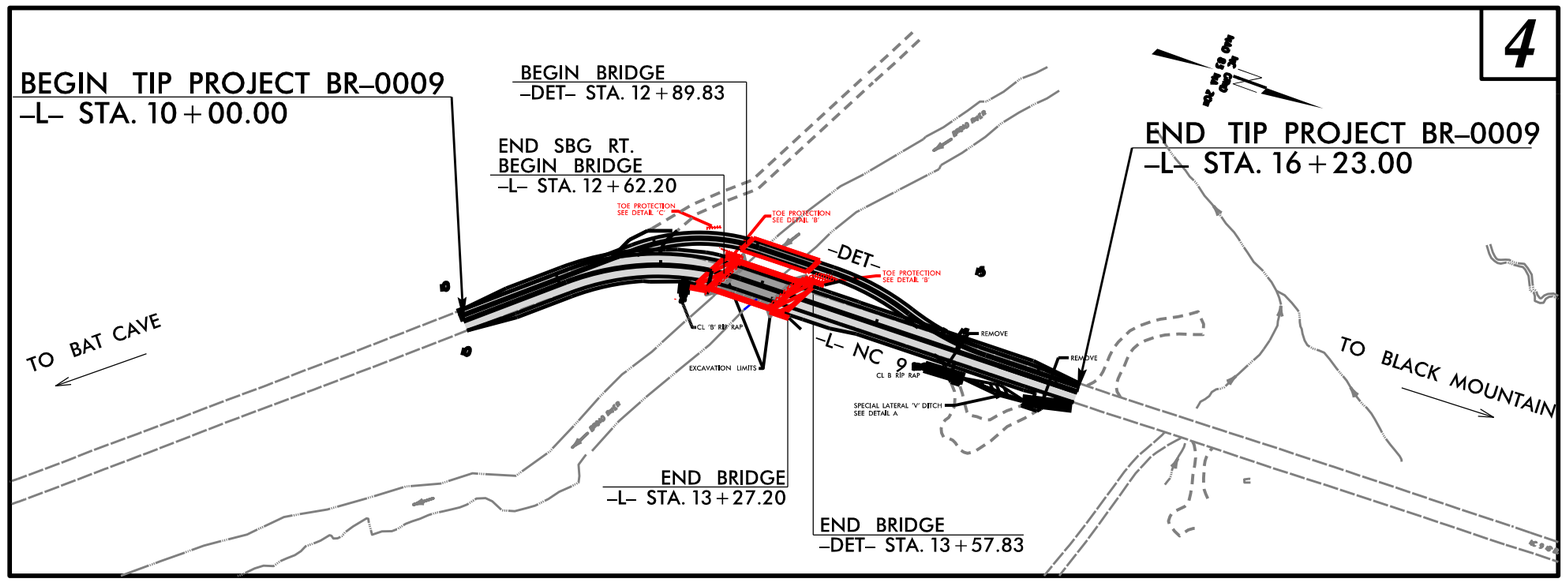
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
67009.1.1	N/A	P.E.

LOCATION: BRIDGE NO. 100079 OVER . BROAD RIVER ON NC 9

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

PERMIT DRAWING
SHEET 1 OF 5

WETLAND AND SURFACE WATER IMPACTS PERMIT



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

PLANS: 50 25 0 50 100
PROFILE (HORIZONTAL): 50 25 0 50 100
PROFILE (VERTICAL): 10 5 0 10 20

DESIGN DATA

ADT 2019 = 620
ADT 2039 = 1100
K = 12 %
D = 60 %
T = 5 % *
V = 30 MPH
* (TTST 1% + DUAL 4%)
FUNC CLASS = COLLECTOR REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT BR-0009	=	0.106 mile
LENGTH STRUCTURES TIP PROJECT B-4605	=	0.012 mile
TOTAL LENGTH TIP PROJECT B-4605	=	0.118 mile

Prepared For:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

By:
TGS ENGINEERS
706 HILLSBOROUGH ST
SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JANUARY 21, 2019

LETTING DATE: JANUARY 21, 2020

RANDY HENEGAR, P.E.
PROJECT ENGINEER

CHRISTOPHER MEDLIN, P.E.
NCDOT DIVISION 13 CONTACT

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

8/8/2019
X:\Consultants\ATCS\BR-0009\Hydraulics\PERMITS_Environmental\Drawings\BR0009_Hyd_prm_tsh.dgn
User:Rlassiter

BUNCOMBE COUNTY
BRIDGE #100079

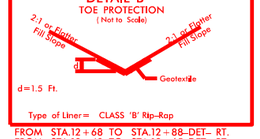
PROJECT REFERENCE NO.	SHEET NO.
BR-0009	04
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

PERMIT DRAWING SHEET 2 OF 5

DETAIL B
TOE PROTECTION
(Not to Scale)

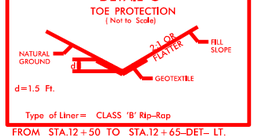


d=1.5 Ft.

Type of Liner= CLASS 'B' Rip-Rap

FROM STA.12+68 TO STA.12+88-DET- RT.
FROM STA.13+48 TO STA.13+65-DET- RT.

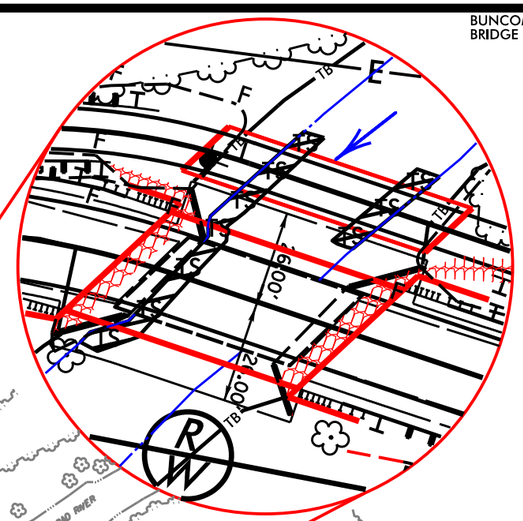
DETAIL C
TOE PROTECTION
(Not to Scale)

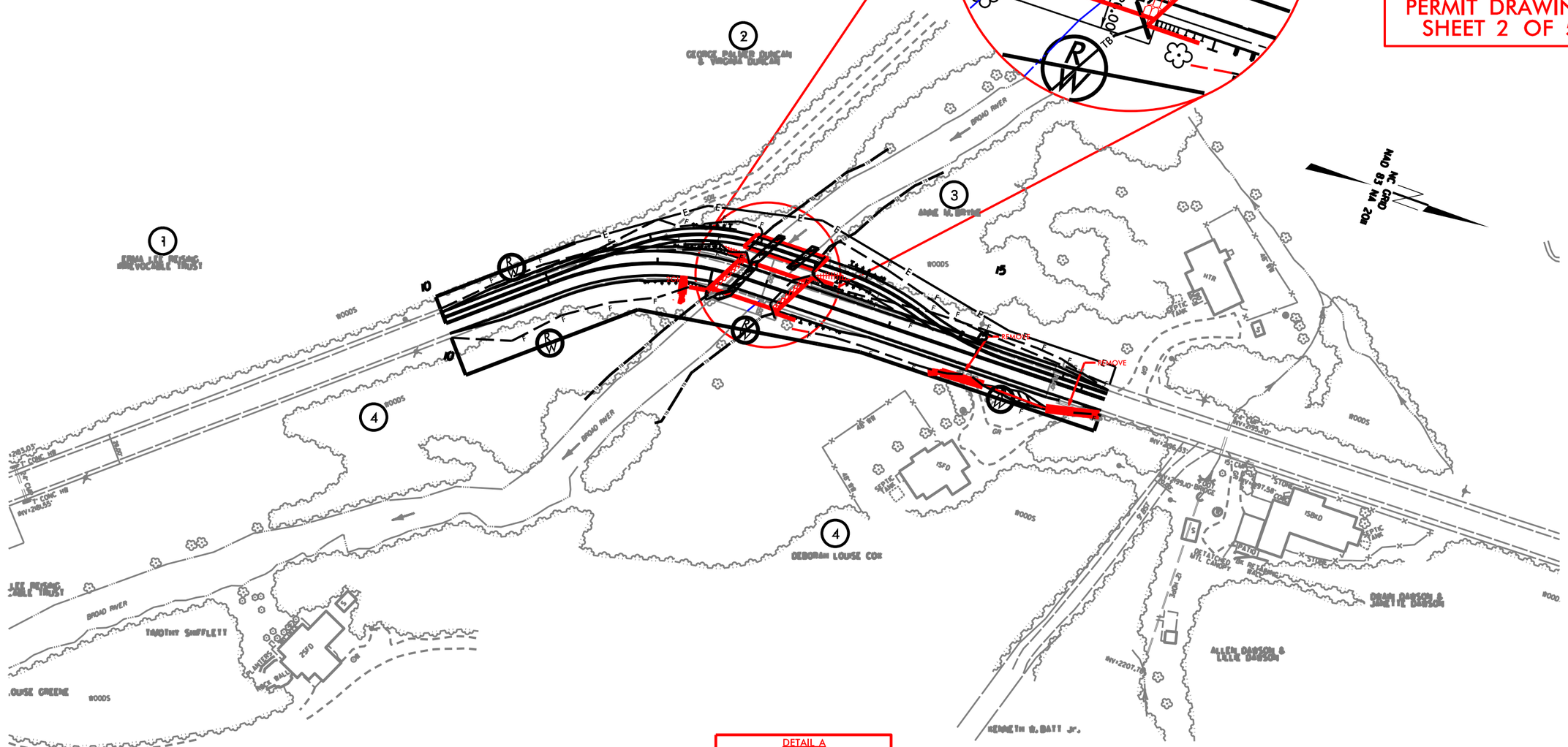


d=1.5 Ft.

Type of Liner= CLASS 'B' Rip-Rap

FROM STA.12+50 TO STA.12+65-DET- LT.



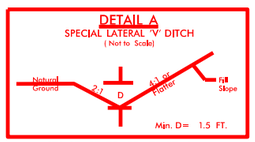


–L– STA. 10+00.00
BEGIN TIP PROJECT BR–0009

100' 0' 100'
HORIZONTAL SCALE

TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Min. D= 1.5 FT.

STA. 15+15 TO 15+75 RT. –L–

REVISIONS

8/17/99

10/16/2018
X:\Projects\VATCS\BR-0009\Hydraulics\PERMIT\S.Environmental\Drawings\BR0009_Hyd_wet_psh_04_Blowup.dgn

BUNCOMBE COUNTY
BRIDGE #100079

PROJECT REFERENCE NO.	SHEET NO.
BR-0009	04
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

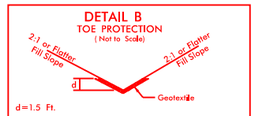
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

PERMIT DRAWING SHEET 3 OF 5

REVISIONS 8/17/99

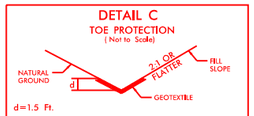
DETAIL B
TOE PROTECTION
(Not to Scale)



d=1.5 Ft.

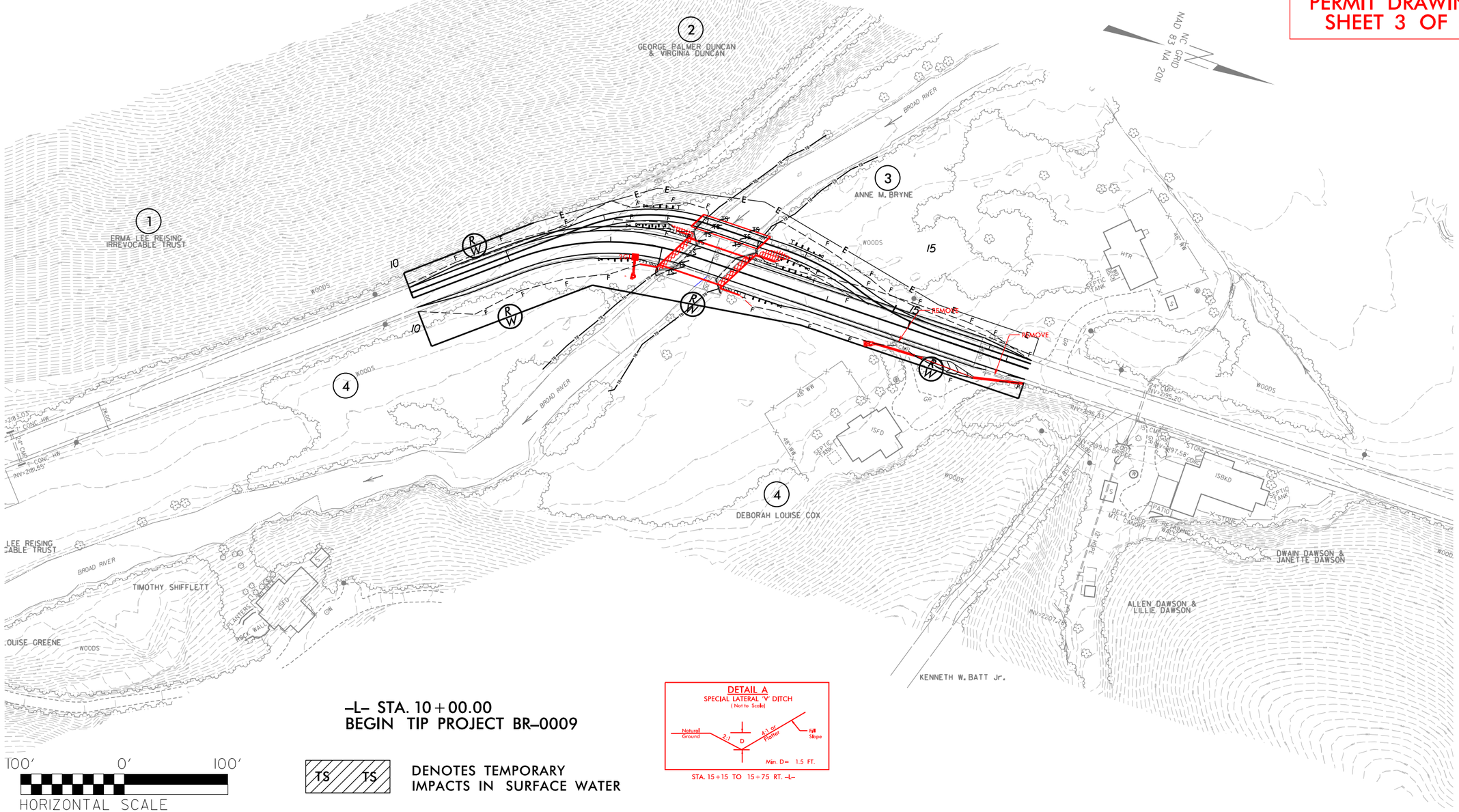
Type of Liner= CLASS 'B' Rip-Rap
FROM STA.12+68 TO STA.12+88-DET- RT.
FROM STA.13+48 TO STA.13+65-DET- RT.

DETAIL C
TOE PROTECTION
(Not to Scale)



d=1.5 Ft.

Type of Liner= CLASS 'B' Rip-Rap
FROM STA.12+50 TO STA.12+65-DET- LT



-L- STA. 10+00.00
BEGIN TIP PROJECT BR-0009

100' 0' 100'
HORIZONTAL SCALE

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Min. D= 1.5 FT.
STA. 15+15 TO 15+75 RT. -L-

8/17/2019
X:\Consultants\ATCS\BR-0009\Hydraulics\PERMITS\Environmental\Drawings\BR0009_Hyd_set.psh 04.dgn
User:jlassiter

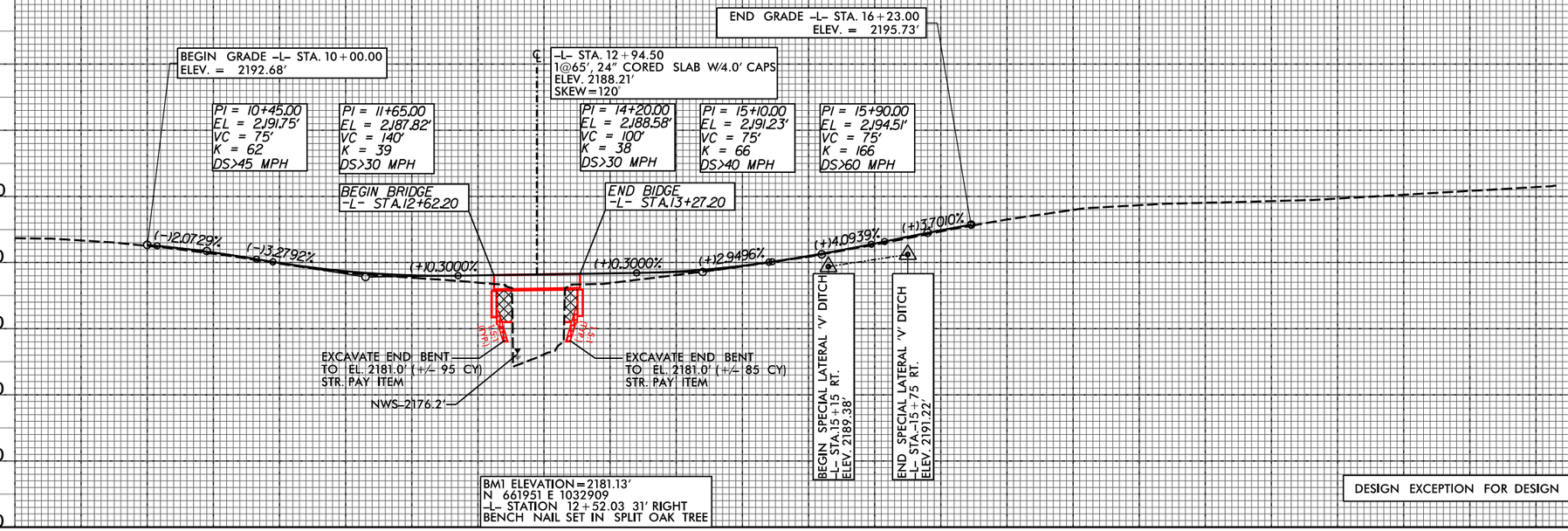
5/28/99

PROJECT REFERENCE NO.	SHEET NO.
BR-0009	5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING SHEET 4 OF 5

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

–L–



–L– BRIDGE HYDRAULIC DATA

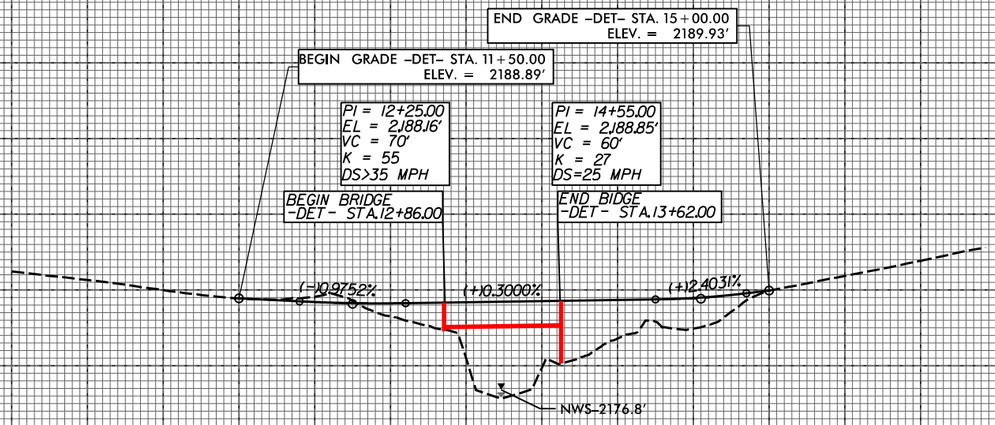
DESIGN DISCHARGE	= 2560	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 2184.3	FT
BASE DISCHARGE	= 3030	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 2186.2	FT
OVERTOPPING DISCHARGE	= 4700	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 2188.3	FT
	= _____	FT
DATE OF SURVEY	= 9/10/18	
W.S.ELEVATION AT DATE OF SURVEY	= 2176.2	FT

RIGHT DITCH ----------

DESIGN EXCEPTION FOR DESIGN SPEED, SIGHT DISTANCE AND VERTICAL CURVES.

FOR –L– PLAN, SEE SHEET 4

–DET–



–DET– BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 1600	CFS
DESIGN FREQUENCY	= 10	YRS
DESIGN HW ELEVATION	= 2184.2	FT
BASE DISCHARGE	= N/A	CFS
BASE FREQUENCY	= N/A	YRS
BASE HW ELEVATION	= N/A	FT
OVERTOPPING DISCHARGE	= N/A	CFS
OVERTOPPING FREQUENCY	= N/A	YRS
OVERTOPPING ELEVATION	= N/A	FT
	= _____	FT
DATE OF SURVEY	= 9/10/18	
W.S.ELEVATION AT DATE OF SURVEY	= 2176.8	FT

FOR –DET– PLAN, SEE SHEET 2B

8/12/2019
K:\Consultants\ATCS\BR-0009\Hydraulics\PERMITS_Environmental\Drawings\BR0009_Hyd_pfl.dgn
User:Blassiter

WETLAND AND SURACE WATER IMPACTS SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
N/A	12+89-13+58 DET	Detour Bridge							< 0.01		60	
	12+63- 12+83-L-	Bridge							< 0.01		50	
TOTALS*:									0.01	0	110	0

*Rounded totals are sum of actual impacts

NOTES:
No wetland impacts at site.

Revised 2018 Feb

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
8/13/2019
BUNCOMBE COUNTY
BR-0009
67009.1.1

HISTORIC ARCHICTECTURE AND LANDSCAPES NO HISTORIC PROPERTIES PRESENT OR AFFECTED 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:	BR-0009	***County***:	Buncombe
WBS No.:	67009.1.1	***Document Type***:	CE
Fed. Aid No:		***Funding***:	☐ State ☒ Federal
Federal Permit(s):	☒ Yes ☐ No	***Permit Type(s)***:	USACE
Project Description: Replace Bridge No. 79 over Broad River.			

SUMMARY OF HISTORIC ARCHICTECTURE AND LANDSCAPES REVIEW

☐ There are no National Register-listed or Study Listed properties within the project's area of potential effects.

☒ There are no properties less than fifty years old which are considered to meet Criteria Consideration G within the project's area of potential effects.

☐ There are no properties within the project's area of potential effects.

☒ There are properties over fifty years old within the area of potential effects, but they do not meet the criteria for listing on the National Register.

☒ There are no historic properties present or affected by this project. (Attach any notes or documents as needed.)

Date of field visit: April 11, 2018

Description of review activities, results, and conclusions:
Review of HPO quad maps, relevant background reports, historic designations roster, and indexes was undertaken on January 17, 2018. Based on this review there are no NR, DE, LL, SS, or SL in the project area; however, number of structures over 50 years old were revealed. An NCDOT Architectural Historian conducted a site visit on Aril 11, 2018 and determined that none of these properties rise to the level of National Register eligibility due to their lack of architectural integrity and significance. No historic properties will be affected by this bridge replacement.

SUPPORT DOCUMENTATION

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

Project Tracking No.

17-12-0044

NO NATIONAL REGISTER OF HISTORIC PLACES ELIGIBLE OR LISTED ARCHAEOLOGICAL SITES AFFECTED 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:	**BR-0009**	*County:*	**Buncombe**
WBS No:	**67009.1.1**	*Document:*	**Minimum Criteria**
F.A. No:	**na**	*Funding:*	☒ State ☐ Federal

Federal Permit Required? ☒ Yes ☐ No *Permit Type:* **NWP**

Project Description:
The project calls for the replacement of Bridge No. 79 on NC 9 over the Broad River in Buncombe County. The Archaeological Area of Potential Effects (APE) for the project is defined as a 4,750-foot (1,447.80-m) long corridor running 2,260 feet (688.85 m) north and 2,490 feet (758.95 m) south along NC 9 from the center of Bridge No. 79. The corridor is approximately 500 feet (152.40 m) wide extending 250 feet (76.20 m) on either side of the road from its present centerline.

SUMMARY OF ARCHAEOLOGICAL FINDINGS

The North Carolina Department of Transportation (NCDOT) Archaeology Group reviewed the subject project and determined:

☒ There are no National Register listed ARCHAEOLOGICAL SITES within the project's area of potential effects. (Attach any notes or documents as needed)

☐ There are National Register listed ARCHAEOLOGICAL SITES within the project's area of potential effects. (Attach any notes or documents as needed).

☐ Subsurface investigations did not reveal the presence of any archaeological resources.

☐ Subsurface investigations did not reveal the presence of any archaeological resources considered eligible for the National Register.

☒ All identified archaeological sites located within the APE have been considered and all compliance for archaeological resources with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.

RECOMMENDATION

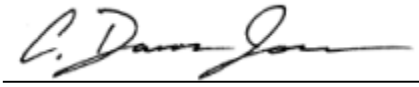
New South Associates, Inc. conducted an intensive archaeological survey and evaluation for proposed replacement of Bridge No. 79 in Buncombe County from May 7 to 11, 2018 under the direction of James Stewart and the supervision of Shawn Patch (see Figures 1–3). During the course of the survey, four archaeological resources (31BN1034, 31BN1035, 31BN1036, and 31BN1037) were identified. Site 31BN1034, 31BN1035, and 31BN1037 are recommended as not eligible for the National Register of Historic Places (NRHP) under Criteria A, B, C, and D and require no further archaeological investigations. The remaining site, 31BN1036, is a Middle Woodland artifact scatter with an undisturbed A-horizon. It retains integrity and has a high potential for the presence of intact features. Based on the results of the investigation, site 31BN1036 is recommended eligible for the NRHP under Criterion D, as the site could yield data significant to Middle Woodland period occupations in the Broad River drainage basin. Site 31BN1036 is recommended for avoidance. If the site cannot be avoided, then further archaeological consultation and site mitigation is required. Current design plans for the bridge replacement project have been review, and site 31BN1036 will not be impacted by construction activities (see Appendix A). I concur with the recommendation.

SUPPORT DOCUMENTATION

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

Other: **Cultural Review**

Signed:



11/13/18

C. Damon Jones **Date**

NCDOT ARCHAEOLOGIST

Brief description of review activities, results of review, and conclusions:
Bridge No. 79 is located south of Black Mountain in Buncombe County, North Carolina. The project area is plotted along the eastern edge of the Black Mountain USGS 7.5' topographic quadrangle and the western edge of the Moffitt Hill quadrangle (Figure 1).

NC 9 and Bridge No. 79 are situated roughly north to south over the Broad River. The river drains south and includes two tributaries within the APE. NC 9 crosses Clear Branch approximately 1,000 feet (304.80 m) north of the bridge, while the confluence with Laurel Creek is 1,000 feet to the south on the east side of NC 9. For much of the southern half of the APE, the Broad River runs alongside the eastern edge of NC 9. Landforms consist of the floodplain adjacent to the river, stream terraces, foot slopes, and steep hillsides. Grassy meadows and hay fields are found on the floodplain and terraces, while forested properties are mostly along the hillsides. Residential properties are scattered throughout as well. Ground disturbance appears minimal.

An NCDOT archaeologist conducted a map review and site file search at the Office of State Archaeology (OSA) on January 11, 2018. No previously recorded archaeological sites are within the APE or a mile of the project area. The 1938 highway map for the county is the first to suggest a modern alignment to NC 9 with a bridge at the current project area (NCSHPWC 1938). The map also shows two structures near the intersection with Old Fort Road. According to the North Carolina State Historic Preservation Office online database (HPOWEB 2018), there are no recorded historical architectural resources within the APE that may yield intact archaeological deposits. A review of United States Department of Agriculture (USDA) soil data for Buncombe County identifies well-drained soils and level terrain within the APE (Hudson 2009). These areas have a high potential for the presence of archaeological remains.

The NCDOT preliminary background investigation recommended an archaeological survey. The project area is minimally disturbed with level terrain and dry soils (Figure 2). These areas are suitable for prehistoric occupations. Subsurface testing was needed to identify any significant archaeological resources that might be impacted by the proposed replacement of Bridge No. 79 in Buncombe County.

New South Associates, Inc. (New South) conducted an intensive survey of the Bridge No. 79 APE between May 7 and May 11, 2018. The survey included a visual inspection of the entire APE and 15-meter-interval shovel testing in areas with moderate or high potential for the presence of archaeological remains. Shovel test locations were pre-plotted based on USDA soil data and LiDAR-derived slope data (Figure 3). Technicians evaluated all test locations during the survey. Suitable test positions were excavated into culturally sterile subsoils, impenetrable substrate, or the water table. Test locations were not excavated in visibly disturbed areas or on excessively steep side slopes. All shovel tests measured 30-centimeters in diameter, and soils were screened through 0.25-inch hardware cloth. Shovel testing results were documented with a Memento data collection application, and the locations of positive shovel tests and features were recorded with a sub-meter precision GPS system. New South examined 392 pre-plotted test locations in the Bridge 79 APE. Technicians excavated 205 test locations, with 10 yielding artifacts. The remaining 187 test locations were not excavated due to the presence of excessively steep slopes.

31BN1034

Site 31BN1034 was identified through the excavation of Shovel Tests 621 and 622, approximately 90 meters north of the NC 9 intersection with Old Fort Road (see Figure 1). Hay currently grows across this floodplain field (Figure 4), and the landowner stated that his family once used the field for cattle pasture. This artifact deposit was identified as site 31BN1034 and evaluated with additional close-interval shovel tests and one test unit (Test Unit 3).

Six 7.5-meter interval shovel tests were excavated during the site delineation (Figures 5 and 6). Although Shovel Tests 621 and 622 yielded artifacts, none of the surrounding tests were productive, and boundaries of 10x23 meters were established for the site.

New South collected 13 artifacts from site 31BN1034. Shovel Test 621 produced a single temporally non-diagnostic quartz flake/flake fragment from zero to 40 centimeters below the ground surface, and Shovel Test 622 produced 12 precontact ceramics between 40-80 centimeters below the ground surface. These sherds were all fine sand-tempered Plain body sherds attributed to the same vessel. Fine sand-tempering in Western North Carolina is an attribute associated with the Connestee ceramic series and suggests a Middle Woodland date range for the occupation (Keel 1976). Although shovel testing produced few artifacts, a single 1x1-meter test unit (Test Unit 3) was opened to determine if the site contained any significant Middle Woodland period artifact deposits or the potential for intact features.

Test Unit 3 was placed near the Shovel Test 622 ceramic artifact concentration, at N502 E498. Four 10-centimeter levels were excavated from this 1x1-meter test unit (Figure 7). All soils were screened through 0.25-inch hardware cloth. Levels 1 (0-10 cmbs), 2 (10-20 cmbs), and 3 (20-30 cmbs) contained a dark yellowish brown (10YR 4/4) silty loam plow zone (Stratum I). Level 4 (30-40 cmbs) was excavated into Stratum II. This stratum contained dark yellowish brown (10YR 3/4) clayey loam. After controlled excavation of the first 40 centimeters did not locate any artifacts, succeeding soils were removed in natural strata to a final depth of 120 centimeters below the ground surface, where excavators encountered an alluvial deposit of coarse yellowish brown (10YR 5/4) micaceous sand (Stratum III). No artifacts, features, or soil anomalies were encountered during the excavation of the succeeding strata.

Shovel testing and test unit excavation show that site 31BN1034 represents a light-density precontact, possibly Middle Woodland, artifact deposit. The concentration of ceramics collected from Shovel Test 622 indicate a pot-bust or short-term occupation that was unlikely to generate features. The continued excavation of Test Unit 3 into sterile soil shows that the site rests on alluvial strata with low potential for deeply buried cultural deposits. These soils and the small number of artifacts recovered from site 31BN1034 indicate a low potential for the site to provide contributions to Middle Woodland period research. Site 31BN1034 is recommended not eligible for the National Register of Historic Places (NRHP) under Criterion D. Because the precontact artifact scatter cannot be associated with any broad historical patterns or notable people, the site is also recommended not eligible for the NRHP under Criteria A, B, and C. No further work is recommended for site 31BN1034.

31BN1035

This historic house site includes a standing fieldstone chimney located directly across from the Old Fort Road intersection with NC 9 and a standing structure, located 10 meters south of the chimney (see Figure 1). A white pine canopy and periwinkle ground cover extended over this artificially graded area (Figure 8), and tree trunks were piled across a 20x10-meter area to the north of the chimney. The adjacent landowner identified the standing structure as a produce stand constructed during the 1970s. Given these dates, the structure was excluded from the archaeological assessment.

The chimney measured 80x160 centimeters in plan and was constructed of stone and mortar (Figure 9). The east-facing fireplace included an elevated stone hearth. A horizontal piece of standing seam metal roofing was embedded in the upper chimney, and mortar present on the interior (eastern) chimney face. No foundation or pier supports were located during the site evaluation. The position of the chimney suggests the house extended into the NC 9 right of way, and it is highly probable that standing structural elements in the area were demolished during road construction. Though survey testing did not locate any artifacts near the chimney, five 7.5-meter interval shovel tests were excavated during the site evaluation (Figures 10 and 11). These tests revealed 30 centimeters of brown (7.5YR 3/4) silty clayey loam overlying reddish yellow (7.5YR 7/8) silty clay subsoil. One test, at N507.5 E500, produced seven historic artifacts from a depth of 0-30 centimeters below the ground surface. This test location and the chimney location indicate the site measures 15 meters in diameter.

The positive shovel test produced four industrial porcelain fragments, one wood screw, one wire nail, and one burned glass fragment. Wood screws, standing seam metal panels, and wire nails have been manufactured since the mid-nineteenth century (Miller 2000; Nelson 1968; Orser et al. 1987), and the 1938 North Carolina State Highway Map for Buncombe County places an occupied house at the approximate site location. Later highway and topographic maps do not show this structure, which suggests the house was abandoned by the mid-twentieth century.

Site 31BN1035 encompasses a mid-nineteenth- to mid-twentieth-century house site with a standing chimney. The small number of recovered artifacts indicates the site will not provide significant research contributions. The proximity of NC 9 and artificial condition of the surrounding terrain suggests the site was disturbed by road construction activity. Shovel testing results indicate the site lacks integrity. Site 31BN1035 is recommended not eligible for the NRHP under Criterion D. Background research did not identify any associations between this house site and broad historical patterns or locally significant individuals. The chimney is not intact and does not represent the works of a master or high design ideals. New South, therefore, recommends site 31BN1035 not eligible for the NRHP under Criteria A, B, and C. No further work is recommended.

31BN1036

Shovel testing identified this precontact artifact scatter 85 meters southwest of the NC 9 intersection with Stroud Valley Road (see Figure 1). The site extends across a ridge nose and the adjoining Clear Branch /Broad River floodplain (Figure 12). The creek joins the Broad River 90 meters southwest of the site. Hay covered the ridge and floodplain during the survey. An abandoned poultry barn was also present on the eastern edge of the ridge (Figure 13). Mr. Larry

Stroud, the landowner, stated that the field was formerly used for cattle grazing and that the poultry barn was constructed in the 1950s and abandoned soon after that.

Thirty-seven 15-meter- and 7.5-meter-interval shovel tests were excavated during the survey and site evaluation (Figures 13 and 14). These tests revealed two principal soil profiles. Soils encountered in the northern half of the site included 30-40 centimeters of strong brown (7.5YR 4/6) silty clay overlying dark brown (7.5YR 3/2) clay and brown (7.5YR 4/4) clay subsoil. Shovel tests near Clear Branch uncovered 20-40 centimeters of brown (10YR 4/3) loamy silt overlying yellowish brown (10YR 5/4) sand. These soil textures and the proximity to the stream attest to the presence of alluvial activity in this area.

There were 13 positive tests located within site 31BN1036, indicating the artifact deposit measures 59x126 meters and extends to a depth of 74 centimeters below ground surface. There were 38 precontact artifacts and unmodified stones collected from site 31BN1036 shovel tests, including seven ceramic fragments, 23 lithic artifacts, and six unmodified stones (Table 1). The fragments had fine or medium sand-tempered pastes with plain, cord-marked, fabric-impressed, or eroded surface treatments. Though the surface treatments were not definitively identified to a precontact ceramic series, paste characteristics resemble the Middle Woodland period Connestee ceramic type (Keel 1976). Thermally altered rock was also identified at the N455 E500 shovel test, but not collected.

Table 1. Artifacts Collected from Site 31BN1036 Shovel Tests

Shovel Test Number/Coordinate	Artifact Type	Count
24 (N500 E500)	Fine Sand Tempered Eroded Decorated Body Sherd	1
25 (N485 E500)	Coarse Sand Tempered Plain Body Sherd	1
	Quartzite Flake	2
	Quartzite Flake-Fragment	1
26 (N470 E500)	Medium Sand Tempered Cord Marked Body Sherd	1
	Quartzite Angular Debris	1
31 (N395 E500)	Ridge and Valley Chert Flake	1
122 (N410 E515)	Coarse Sand Tempered Eroded Body Sherd	1
209 (N470 E530)	Quartzite Angular Debris	1
	Ridge and Valley Chert Flake	1
	Unmodified Stone	2
210 (N455 E530)	Fine Sand Tempered Fabric Impressed Body Sherd	1
	Quartzite Angular Debris	1
	Quartzite Flake-Fragment	1
	Unmodified Stone	6
212 (N425 E537.5)	Quartz Flake-Fragment	1
305 (N440 E545)	Ridge and Valley Chert Flake	1
N500 E507.5	Quartzite Angular Debris	2
	Quartzite Flake	3
	Ridge and Valley Chert Flake	1
N425 E530	Ridge and Valley Chert Flake	1
N470 E537.5	Medium Sand Tempered Eroded Decorated Body Sherd	1
	Medium Sand Tempered Plain Body Sherd	1
	Quartzite Angular Debris	2
	Quartzite Flake-Fragment	1
N410 E537.5	Quartz Angular Debris	2
	Total	**38**

Two 1x1-meter test units were excavated at site 31BN1036 with the goals of documenting local stratigraphic information, determining the potential for the site to contain intact buried features, and collecting additional artifacts. Technicians excavated Test Unit 1 in an area of anomalous soil at N500 E506. This test unit was dug in 10-centimeter levels within natural strata. Levels were measured from the ground surface, and all excavated soils were screened through 0.25-inch hardware cloth. Collected artifacts were also bagged by level.

Nine levels were excavated in Test Unit 1, which uncovered four strata (Figure 15). Levels 1, 2, and 3 were excavated through Stratum I, a brown (7.5 YR 4/3) silty clay plow zone. Level 4 (30-44 cmbs) was inclusive of Stratum II. This stratum represented a zone of undisturbed A-horizon soil and was dark brown (7.5 YR 3/4) clayey silt that transitioned into Stratum III, a dark brown (7.5 YR 3/4) silty clay 40 centimeters below the ground surface. Stratum III was noticeably less compact than the upper strata and contained several cobble- and boulder-sized rocks (per the Wentworth Scale). This stratum was sampled with Levels 5, 6, and 7. Soils in Levels 8 and 9 (Stratum IV) were also more compact than Stratum II. This brown (7.5 YR 4/4) clay subsoil did not yield any artifacts, and excavation was terminated at 94 centimeters below ground surface (Table 2).

There were 15 quartz or quartzite lithic artifacts and six sherds collected from Stratum I (see Table 2). None of the sherds retained identifiable surface treatments, and the flake/flake fragments are temporally non-diagnostic. Although artifact density increased from Level 1 to Level 3, the small size and poor condition of the collected ceramics indicated that agricultural activity disturbed the uppermost 30 centimeters of the artifact deposit. Larger ceramic sherds and higher artifact frequencies were observed in the Stratum II undisturbed A-horizon.

Stratum II produced 21 lithic and ceramic artifacts. The artifact sample includes quartz, quartzite, and Ridge and Valley chert flake/flake fragments. One non-diagnostic quartz biface was also collected from this stratum. The two stamped sherds collected from the stratum possess two distinct temper types (Figure 16). The larger sherd has fine sand temper, and the smaller sherd has a coarse sand temper. Given the local precontact ceramic sequence, the fine sand-tempered sherd may be attributed to the Middle Woodland Connestee series.

There were 22 artifacts, including one medium sand-tempered brushed body sherd, collected from Stratum III. The Stratum III lithic assemblage includes quartz, quartzite, and Ridge and Valley chert flake/flake fragments, and quartz angular debris. None of these artifacts are temporally diagnostic. Artifact density diminished with depth, and Levels 8 and 9, in Stratum IV were culturally sterile.

Test Unit 1 revealed a plow zone (Stratum I) overlying a 14-centimeter band of undisturbed A-horizon soil (Stratum II). This zone had a comparatively higher artifact density and contained large ceramic fragments attributable to a primary deposition context. Given the presence of rocks and loose compaction observed in Stratum III, the A-horizon may have developed atop a colluvial deposit. The few artifacts collected from Levels 5, 6, and 7 likely resulted from post-depositional processes, such as bioturbation. The presence of compact, sterile subsoil (Stratum IV) beneath this layer indicates the colluvium did not bury any earlier cultural components. Although no features were identified in the Test Unit 1 excavation, the presence of an undisturbed A-horizon indicates subsurface features may be preserved within this part of site 31BN1036.

Table 2. Artifacts Collected from Test Unit 1

Stratum	Level Number	Artifact Description	Count
I	1 (0-10 cmbs)	Crystalline Quartz Flake-Fragment	1
		Quartzite Flake-Fragment	1
	Level 1 Total		**2**
	2 (10-20 cmbs)	Medium Sand Tempered Plain Body Sherd	1
		Quartz Angular Debris	4
	Level 2 Total		**5**
	3 (20-30 cmbs)	Sand Tempered Residual Sherd	2
		Fine Sand Tempered Eroded Decorated Body Sherd	3
		Quartz Flake	5
		Quartz Flake-Fragment	3
		Quartzite Flake-Fragment	1
	Level 3 Total		**14**
Stratum I Total			**21**
II	4 (30-44 cmbs)	Coarse Sand Tempered Unidentified Stamped Body Sherd	1
		Fine Sand Tempered Unidentified Stamped (Oblique Overlapping) Body Sherd	1
		Quartz Biface	1
		Quartz Flake	1
		Quartz Flake-Fragment	5
		Quartzite Flake	6
		Quartzite Flake-Fragment	4
		Ridge and Valley Chert Flake	2
Stratum II (Level 4) Total			**21**
III	5 (44-54 cmbs)	Medium Sand Tempered Brushed Rim Sherd	1
		Quartz Flake	4
		Quartz Flake-Fragment	2
		Quartzite Flake	3
	Level 5 Total		**10**
III	6 (54-64 cmbs)	Quartz Angular Debris	1
		Quartz Flake	4
		Quartz Flake-Fragment	1
		Quartzite Flake	1
		Quartzite Flake-Fragment	2
	Level 6 Total		**9**
	7 (64-74 cmbs)	Quartzite Flake	1
		Ridge and Valley Chert Flake-Fragment	1
	Level 7 Total		**2**
Stratum III Total			**22**
IV	8 (74-84 cmbs)	N/A	**0**
	9 (84-94 cmbs)	N/A	**0**
Stratum IV Total			**0**
		Test Unit 1 Total	**63**

Test Unit 2 was also excavated in an area of anomalous soil at N411 E515. This unit was placed 10 meters south of Clear Branch, near survey Shovel Test 122. The same excavation methods outlined for Test Unit 1 were employed for Test Unit 2. Six levels, divided among four strata, were excavated in Test Unit 2 (Figure 17). Levels 1, 2, and 3 were dug through a dark yellowish brown (10YR 3/4) silty loam plow zone (Stratum I) and very pale brown (10YR 8/2) sand lens. Stratum II was fully excavated in Level 4 (29-39 cmbs). This very dark brown (10YR 2/2) silt was very dense and contained a moderate amount of cobble- and boulder-sized fieldstone and thermally altered rock. Level 5 exposed Stratum III, a dark yellowish brown (10YR 4/4) clayey silt with markedly fewer rocks than Stratum II soil. The final stratum (IV) was composed of brown (7.5YR 4/3) silty clay subsoil mottled with reddish yellow (7.5YR 7.8) concretions and very dark gray (7.5YR 3/1) organic inclusions. The excavation was terminated at 60 centimeters below ground surface after Level 6 did not produce any artifacts.

Stratum I produced most of the artifacts (n=24) found in Test Unit 2, including non-diagnostic quartz flake/flake fragments or quartz angular debris (Table 3). Two non-diagnostic chert flakes and an unmodified stone were also collected, as well as two medium sand-tempered eroded body sherds and one coarse sand-tempered plain body sherd from the plow zone.

Although agricultural activity disturbed the upper portion of the artifact deposit, the undisturbed A-horizon soils present in Test Unit 2 and the proximity of Clear Branch suggests alluvial processes may have preserved precontact artifact deposits and features. Of the six artifacts collected from Stratum II, three were quartz flake/flake fragments or angular debris. Three medium sand-tempered eroded decoration body sherds collected from the stratum were not definitively identified to a precontact ceramic series, although paste characteristics are similar to the probable Connestee ceramics collected from shovel testing and Test Unit 1.

Two quartz flakes, a heat-treated Savannah River quartz stemmed biface, and two fine sand-tempered rim sherds were collected from Stratum III (39-49 cmbs). The presence of the Savannah River projectile point/knife indicates people also occupied site 31BN1036 during the Middle or Late Archaic period (Purrington 1983; Figure 18). Soil color and textural changes and an absence of artifacts terminated excavation 59 centimeters below the ground surface.

Test unit excavation and shovel testing demonstrate that site 31BN1036 is a large-sized precontact occupation with Middle-Late Archaic period and Woodland period diagnostic artifacts. Recovery of thermally altered rock and ceramics are evidence that intensive, possibly long-term, occupations occurred at the site. The presence of undisturbed A-horizon soils (Stratum II) beneath the plow zone (Stratum I) indicates site 31BN1036 retains integrity and has a high potential for the presence of intact subsurface features. Given this potential, site 31BN1036 is recommended eligible for the NRHP under Criterion D, as the site could yield data significant to Middle Woodland period (perhaps Connestee phase) studies in the upper reaches of the Broad River watershed. This precontact site is not associated with any notable individuals or broad historical patterns and is recommended not eligible under Criterion A, B, or C.

Table 3. Artifacts Collected from Test Unit 2

Stratum	Level Number	Artifact Description	Count
I	1 (0-10 cmbs)	Medium Sand Tempered Eroded Body Sherd	1
		Chert-Unidentified Flake	1
		Quartz Angular Debris	3
		Quartz Flake	2
		Quartzite Flake	4
	Level 1 Total		**11**
	2 (10-20 cmbs)	Coarse Sand Tempered Plain Body Sherd	1
		Medium Sand Tempered Eroded Body Sherd	1
		Quartz Angular Debris	1
		Quartz Flake	2
	Level 2 Total		**5**
	3 (20-29 cmbs)	Quartz Angular Debris	1
		Quartz Flake	1
		Quartzite Flake	4
		Ridge and Valley Chert Flake-Fragment	1
		Unmodified Stone	1
	Level 3 Total		**8**
Stratum I Total			**24**
II	4 (29-39 cmbs)	Medium Sand Tempered Eroded Decorated Body Sherd	3
		Quartz Angular Debris	1
		Quartz Flake	1
		Quartzite Flake	1
	Level 4 Total		**6**
Stratum II Total			**6**
III	5 (39-49 cmbs)	Fine Sand Tempered Plain Rim Sherd	2
		Quartzite Biface-Hafted	1
		Quartzite Flake	2
	Level 5 Total		**5**
Stratum III Total			**5**
IV	6 (49-59 cmbs)	N/A	0
Stratum IV Total			**0**
		Test Unit 2 Total	**35**

Potential research questions that might be addressed with archaeological datasets include, but are not limited to:

- What is the site's depositional setting? What natural and cultural processes were responsible for site formation?
- Are features present? If so, what types? What information can these provide on the site occupants?
- What is the relationship between the Late Archaic and Middle Woodland occupations? Are there any differences in occupation type/activities/intensity between these components? Are additional precontact components present that have yet to be identified?

- How does the Middle Woodland (Connestee) occupation compare to other sites in the region?
- What is the nature of lithic technology/organization? Are there detectable differences between the two occupations?
- Is there any evidence for intact houses or house patterns?
- Is there evidence for seasonal occupation?
- Is the site located along a known travel corridor?
- Does the site contain datasets such as pollen/phytoliths, zooarchaeological remains, and ethnobotanical specimens? Is there evidence for harvesting/collecting wild resources or possibly early domesticates?

Preservation through avoidance is recommended. If the proposed bridge replacement project cannot avoid direct impacts to the site, a data recovery plan may be necessary.

31BN1037

Site 31BN1037 was located 70 meters south of the Havens Creek Road intersection with NC 9 (see Figure 1). This site was in a low-lying area near the western bank of Clear Branch Creek. During the survey, a hardwood canopy and moderate-density scrub vegetation extended over this area (Figure 19).

Three 7.5-meter interval delineation shovel tests were excavated in a cruciform pattern surrounding the positive test (Figure 20). Proximity to Clear Branch and steep slopes prevented testing to the east of Shovel Test 521. The excavated test locations revealed 50 centimeters of brown (7.5YR 4/3) loamy silt overlying reddish yellow (7.5YR 7/8) clay (Figure 21). These soils likely resulted from alluvial deposition, based on their texture and proximity to the stream. A 15-meter diameter site boundary was established after none of the delineation tests produced artifacts.

A single quartz flake fragment was collected from site 31BN1037. This temporally non-diagnostic artifact was recovered from an alluvial stratum, which indicates the site lacks integrity and research potential. Absent context, site 31BN1037 cannot be associated with any broad historical patterns or significant individuals. New South recommends site 31BN1037 not eligible for the NRHP under Criterion A, B, C, or D. No further work is recommended for this site.

1973 Duplex

During the survey, a series of concrete block footings were identified near the southeastern corner of the APE (see Figure 1; Figure 22). These features were located on the opposite bank of the Broad River from NC 9. A neighboring landowner stated that these footings were constructed in 1973 for an uncompleted duplex residence/resort. This statement was supported by an aluminum beer can and a steel soda can stamped with anti-littering messages “Please Don’t Litter” and “Pitch In!” discarded within the concrete block voids (see Figure 22; Figure 23). These footings were not recorded as an archaeological site or evaluated for NRHP eligibility given the neighbor’s

statement and documentation showing the United States Brewing Association initiated the "Pitch In!" campaign 47 years ago (1971) (NAPSA n.d.).

Summary of Findings

New South technicians excavated 235 survey and delineation shovel tests in the Bridge 79 APE. These efforts resulted in the identification of four precontact and historic sites. Sites 31BN1034, 31BN1035, and 31BN1037 are recommended not eligible for the NRHP. No further work is recommended for these three sites. Site 31BN1036, a Middle Woodland artifact scatter with an undisturbed A-horizon and a high potential for the presence of intact features, is recommended eligible for the NRHP. Preservation through avoidance is advised for site 31BN1036. If avoidance is not possible, additional testing and data collection in the area of direct effect may be necessary.

New South Associates, Inc.
James Stewart
Archaeologist

References Cited

HPOWEB

2017 North Carolina State Historic Preservation Office GIS Web Service. http://gisNCDCR.gov/hpoweb/. Accessed February 27, 2018.

Hudson, Mark

2009 *Soil Survey of Buncombe County, North Carolina*. United States Department of Agriculture, Natural Resources Conservation Services in cooperation with United States Department of Agriculture, Forest Service; North Carolina Department of Environment and Natural Resources; North Carolina Agricultural Research Service; North Carolina Cooperative Extension Service; Buncombe Soil and Water Conservation District, and Buncombe County Board of Commissioners.

Keel, Bennie C.

1976 *Cherokee Archaeology: A Study of the Appalachian Summit*. University of Tennessee Press, Knoxville, Tennessee.

Miller, George L.

2000 Telling Time for Archaeologists. *Northeast Historical Archaeology* 29:1–22.

Nelson, Lee H.

1968 Nail Chronology as an Aid to Dating Old Buildings. *Technical Leaflet No. 15*. American Association for State and Local History, Nashville, Tennessee 24(11).

North Carolina State Highway and Public Works Commission (NCSHPWC)

1938 *North Carolina State Highway Map for Buncombe County, North Carolina*. North Carolina State Highway and Public Works Commission, Raleigh.

Orser, Charles E. Jr., Annette M. Nedola, and James L. Roark

1987 Exploring the Rustic Life: Multidisciplinary Research at Millwood Plantation, A Large Piedmont Plantation in Abbeville County, South Carolina, and Elbert County, Georgia. Prepared for Archeological Services Division, National Park Service, Southeast Region, Atlanta, Georgia. Contract number CX 5000-0-4042. Funded by Savannah District, U.S. Army Corps of Engineers, Savannah, Georgia. Report available from Mid-American Research Center, Loyola University of Chicago, Chicago, Illinois.

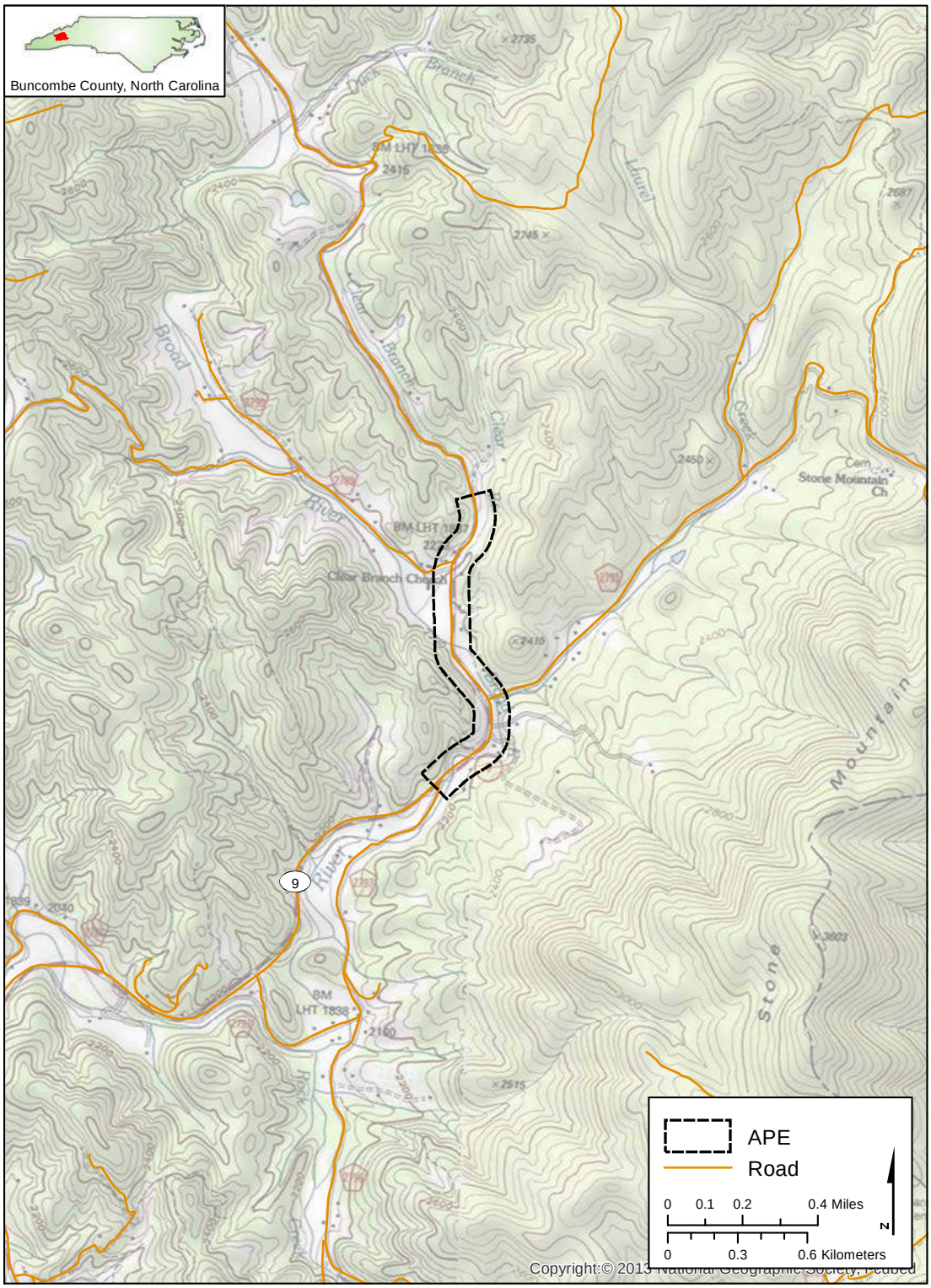
United States Geological Survey (USGS)

1979 Black Mountain, North Carolina 7.5 minute quadrangle map.

1983 Moffitt Hill, North Carolina 7.5 minute quadrangle map.

Figure List

Figure 1. Bridge 79 APE in Buncombe County



Sources: USGS Topographic Quadrangle Maps, Black Mountain, NC (1979) and Moffitt Hill, NC (1983)

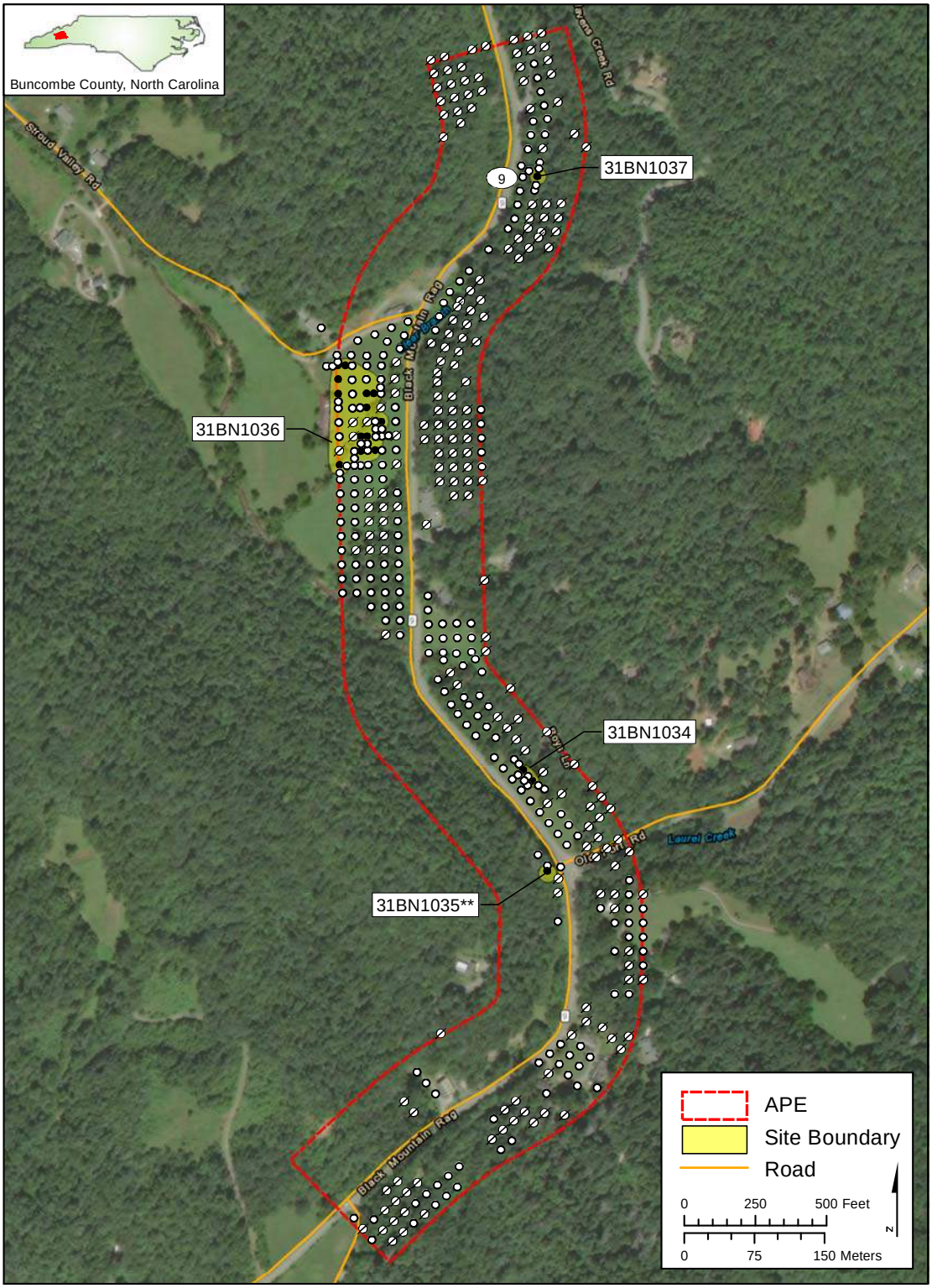
Figure 2. Current Conditions in the Bridge 79 APE

A) The Intersection of NC 9 and Old Fort Road, Facing West

B) Bridge 79 Over the Broad River, Facing North

C) The NC 9 and Havens Creek Road Intersection

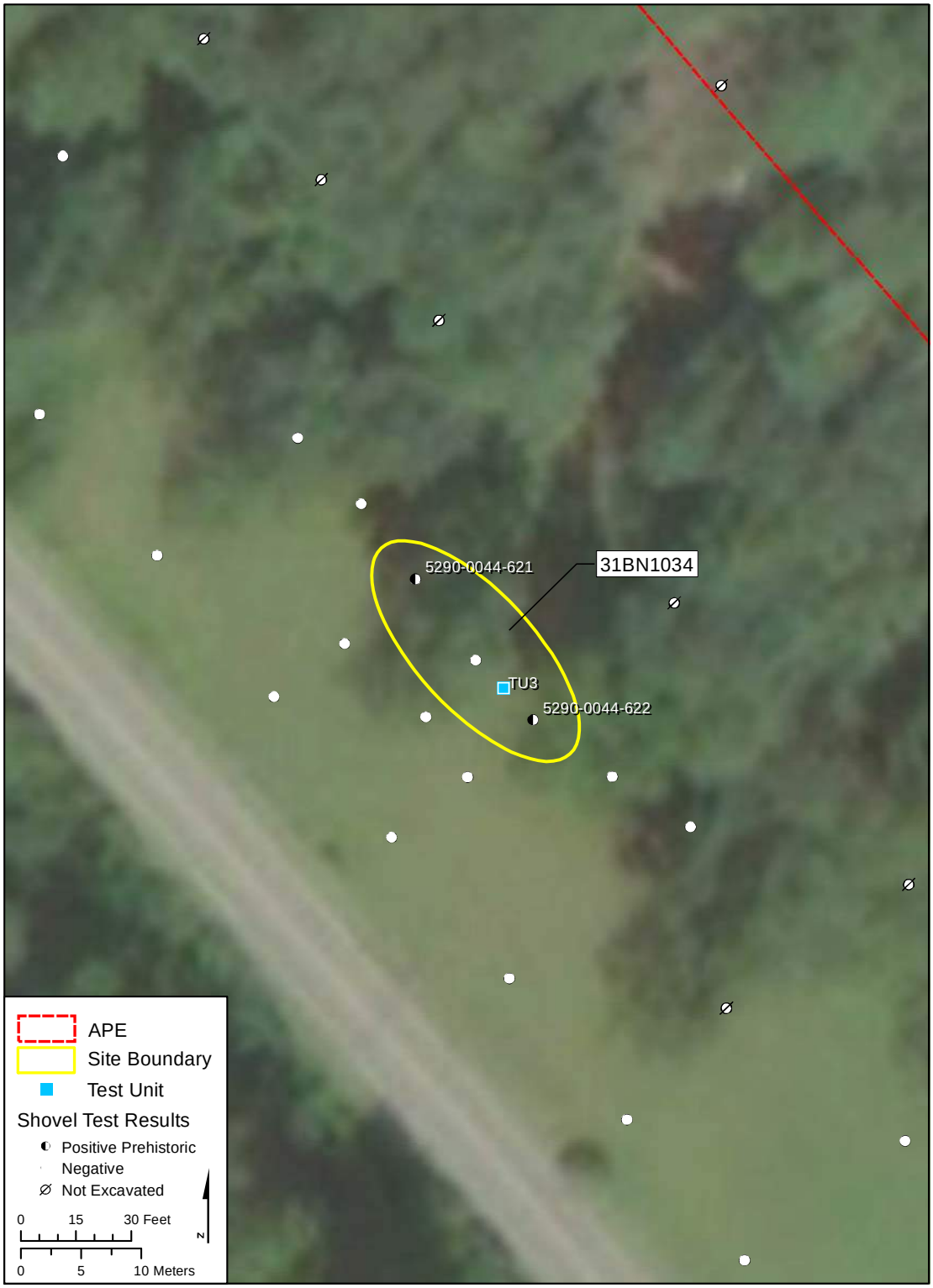
Figure 3. Pre-Plotted Shovel Test Locations



Sources: ESRI World Imagery (2018)

Figure 4. Site 31BN1034 Setting

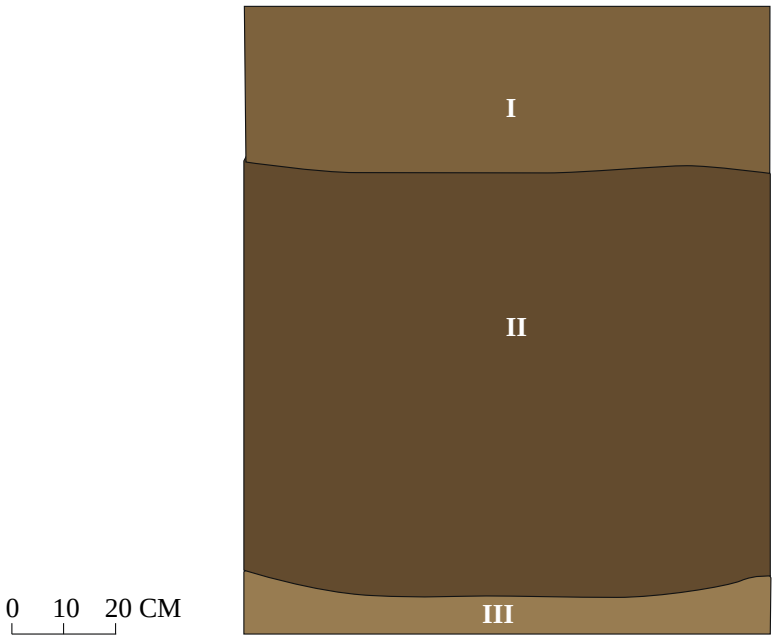
Figure 5. Map of Site 31BN1034



Sources: ESRI World Imagery (2018)

Figure 6. Site 31BN1034 Shovel Test Profile Photograph

Figure 7. Test Unit 3 at Site 31BN1034, East Profile Sketch and Photograph



Stratum I = 10YR 4/4 Dark Yellowish Brown Slity Loam
Stratum II = 10YR 3/4 Dark Yellowish Brown Clayey Sandy Silt
Stratum III = 10YR 5/4 Yellowish Brown Micaceous Sand

Figure 8. Site 31BN1035 Setting

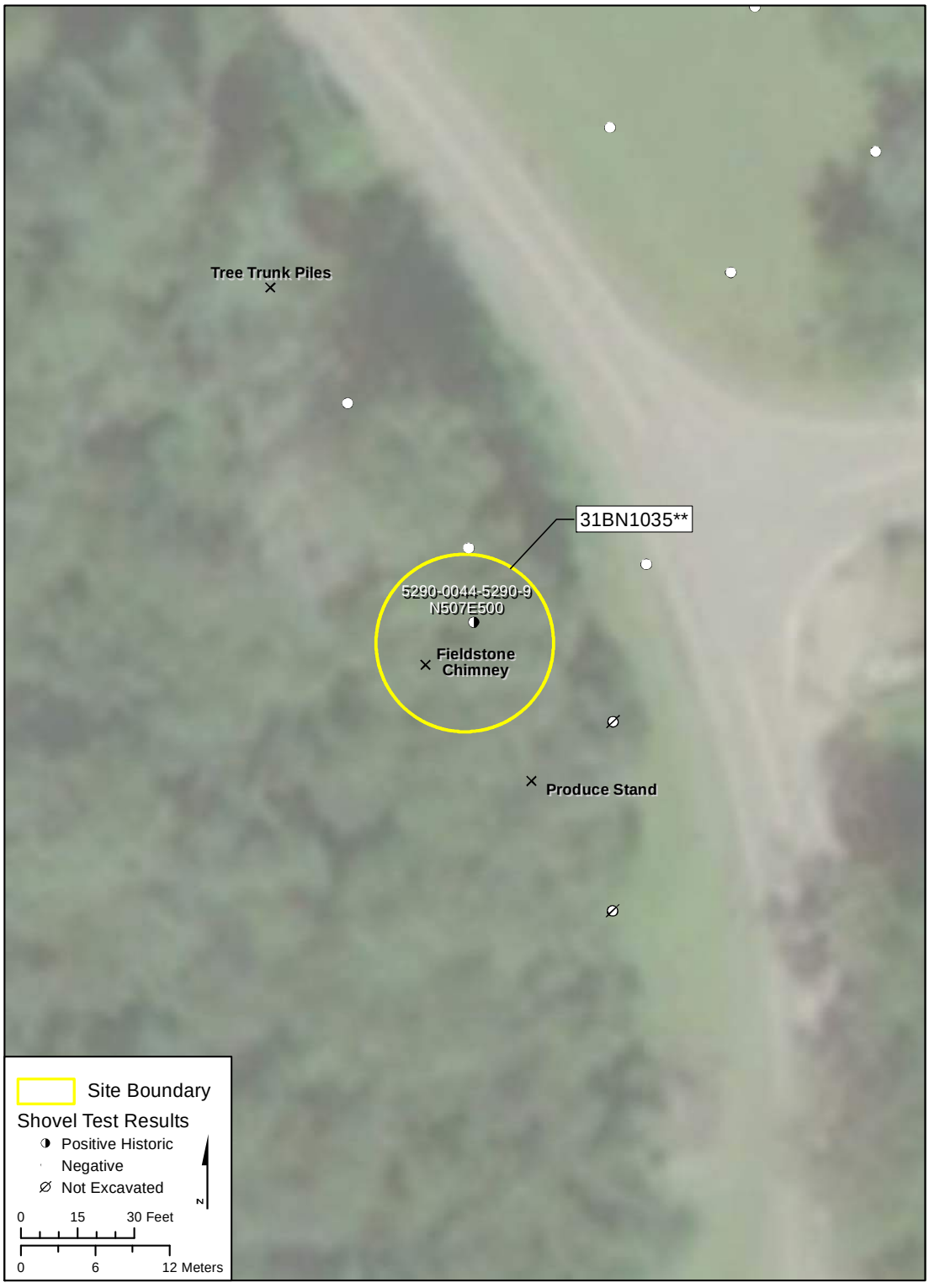
Figure 9. Chimney at Site 31BN1035

C. Facing West

B. Facing South

A. Facing East

Figure 10. Map of Site 31BN1035

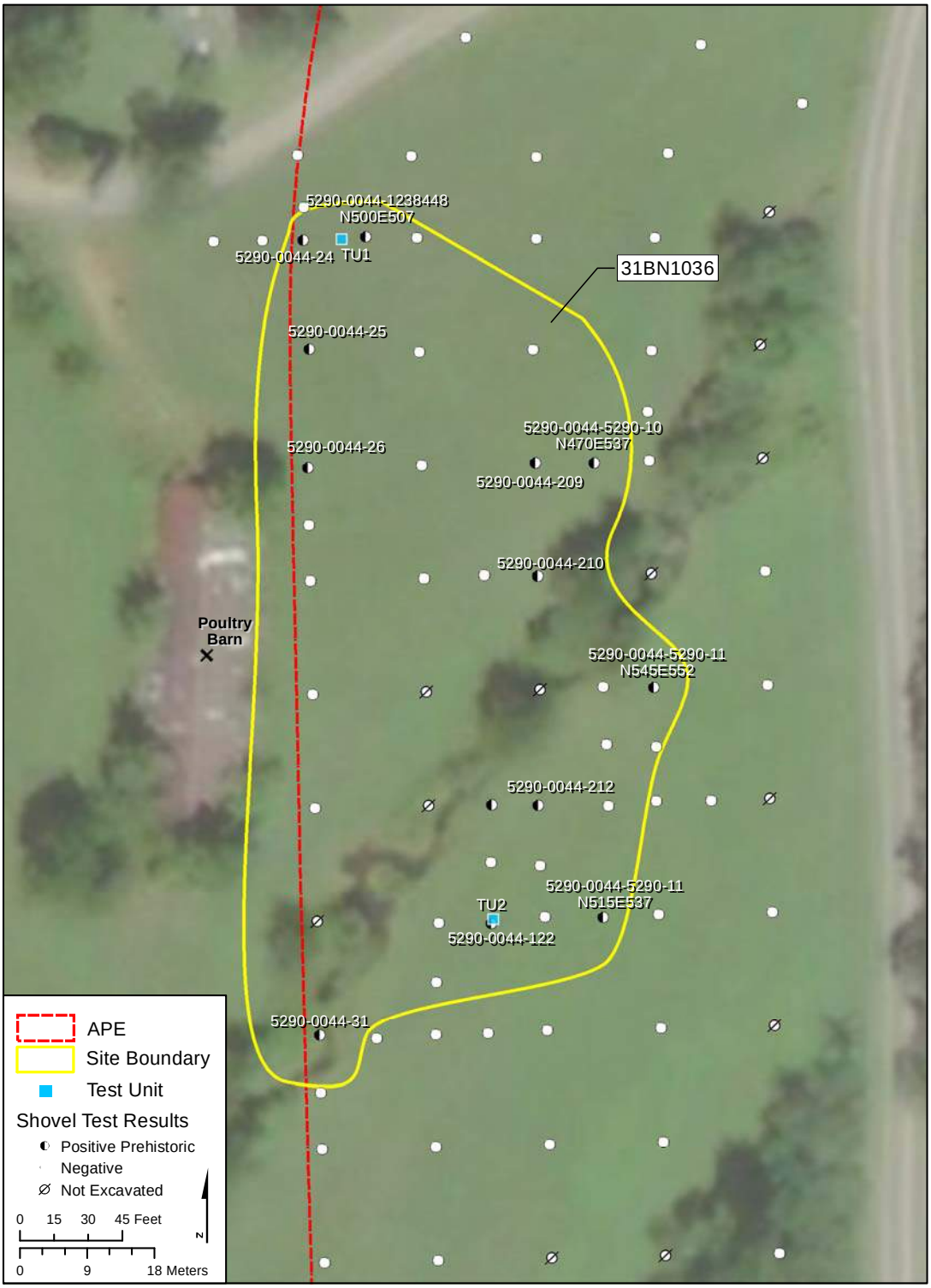


Sources: ESRI World Imagery (2018)

Figure 11. Site 31BN1035 Shovel Test Profile Photograph

Figure 12. Site 31BN1036 Setting

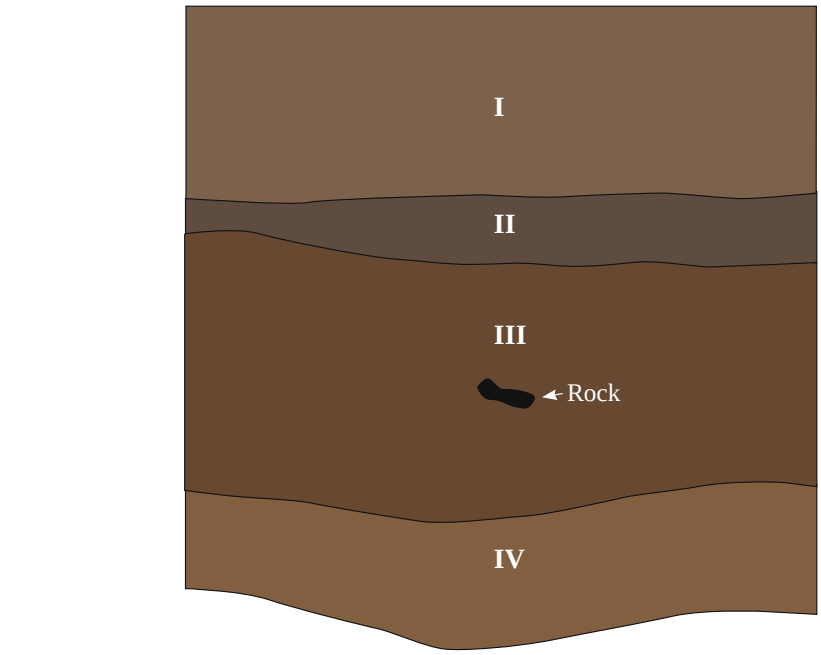
Figure 13. Map of Site 31BN1036



Sources: ESRI World Imagery (2018)

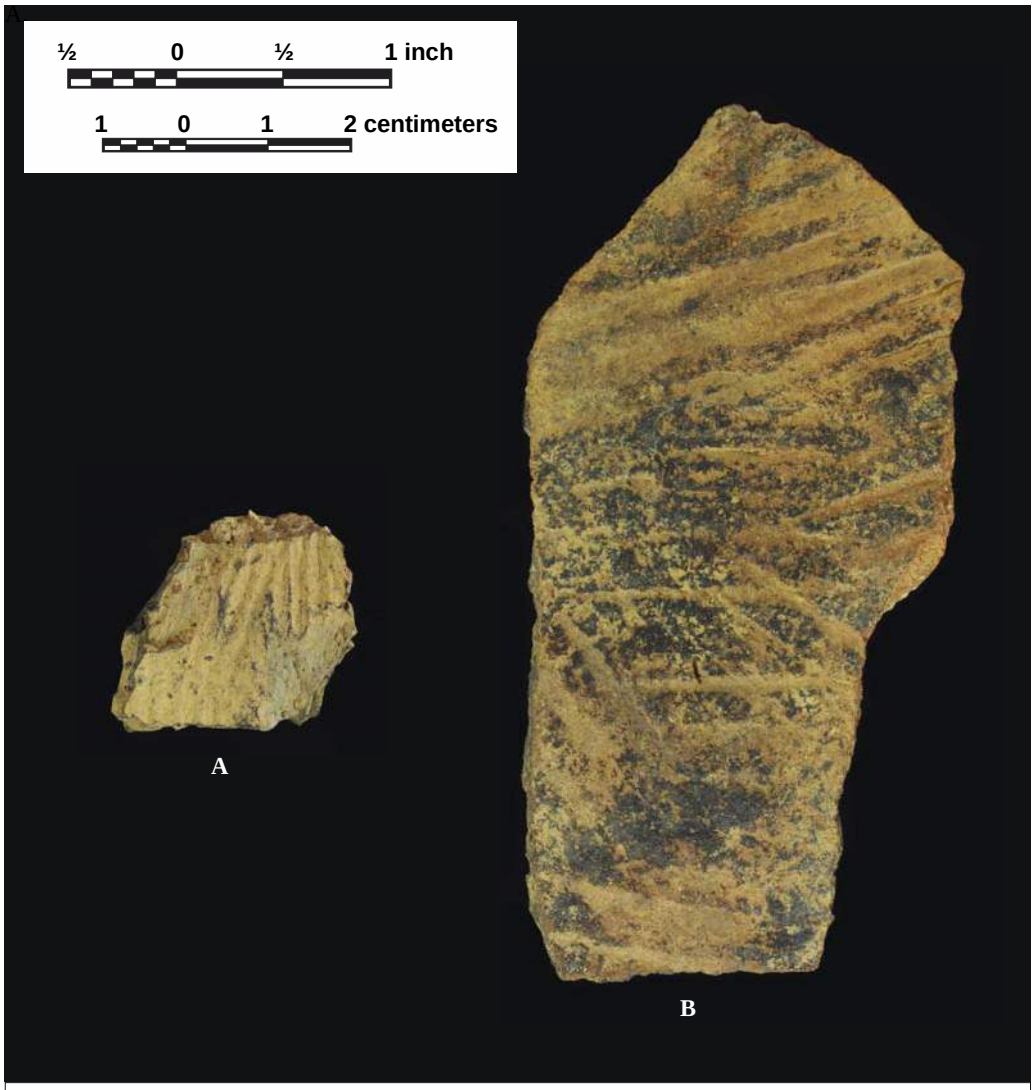
Figure 14. Site 31BN1036 Shovel Test Profile Photograph

Figure 15. Test Unit 1 at Site 31BN1036, North Profile Sketch and Photograph



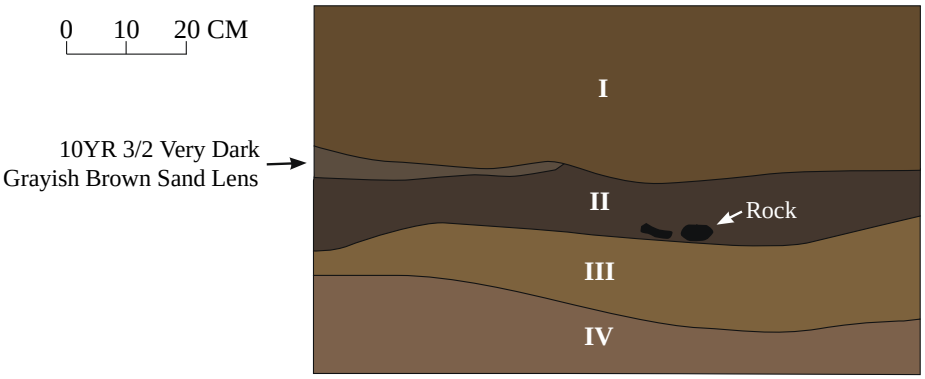
Stratum I = 7.5YR 4/3 Brown Silty Clay Plow Zone
Stratum II = 7.5YR 3/2 Dark Brown Clayey Silt
Stratum III = 7.5YR 3/4 Dark Brown Silty Clay
Stratum IV = 7.5YR 4/4 Brown Clay

Figure 16. Ceramics Collected from Test Unit 1, Level 4



A. Fine Sand Tempered Unidentified Stamped Sherd
B. Coarse Sand Tempered Unidentified Stamped Sherd

Figure 17. Test Unit 2 at Site 31BN1036, North Profile Sketch and Photograph



Stratum I = 10YR 3/4 Dark Yellowish Brown Slity Loam
Stratum II = 10YR 2/2 Very Dark Brown Dense Silt
Stratum III = 10YR 4/4 Dark Yellowish Brown Clayey Silt
Stratum IV = 7.5YR 4/3 Brown Silty Clay with Concretions

Figure 18. Savannah River Stemmed Point Collected from Test Unit 2, Level 5

Figure 19. Site 31CN1037 Setting

Figure 20. Map of Site 31CN1037

Sources: ESRI World Imagery (2018)

Figure 21. Site 31CN1037 Shovel Test Profile Photograph

Figure 22. Partially Demolished Building Constructed in the Early 1970s

A) Concrete Block Corner

B) Cans Located Within the Block Wall

Figure 23. Cans Located Within the Block Wall

A) Aluminum and Steel Cans Recovered from Inside the Wall

B) Can Tops Showing Stamps

APPEXDIX A

Plan sheet showing avoidance of site 31BN1036 with the proposed replacement of Bridge 79 in Buncombe County.

FINDING BY NCDOT ARCHITECTURAL HISTORIAN

Historic Architecture and Landscapes – **NO HISTORIC PROPERTIES PRESENT OF AFFECTED**

Shelby Reap — April 12, 2018

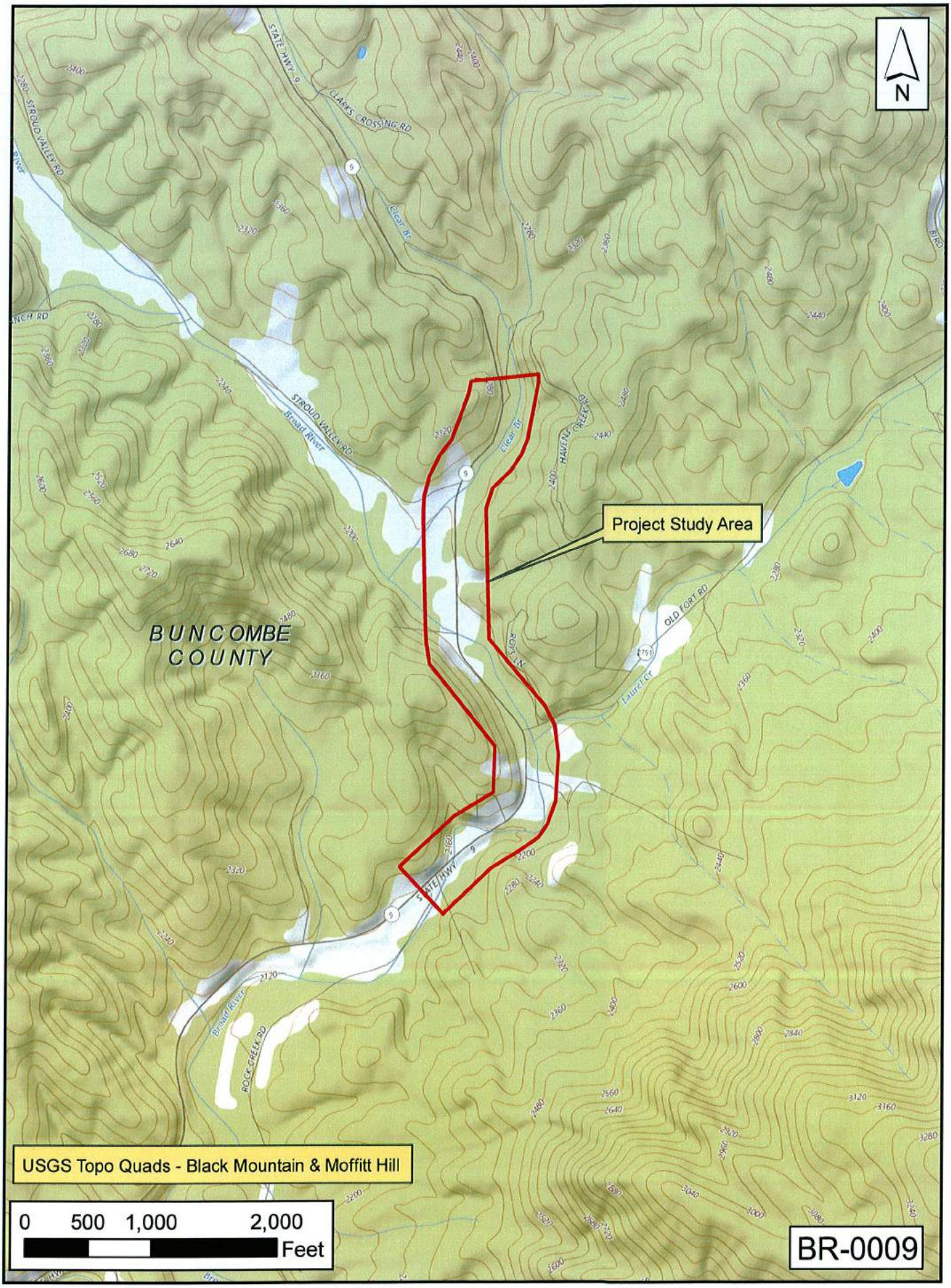
NCDOT Architectural Historian — Date

2415 NC 9 c. 1956

2425 NC 9 c.1945

2521 NC 9 c.1960

North Carolina State Historic Preservation Office
HPOWEB GIS Service (NCDOT Staff)
Annotate the ...
HELP
HPO Data Layers
Background View
Bridge No 79
Haven's Creek Rd
Roys Ln
Old Fort Rd
Search Results
1000 ft
400 m


N
Project Study Area
BUNCOMBE COUNTY
STATE HWY 9
CLARKS CROSSING RD
STROUD VALLEY RD
Broad River
Clear Br
HAVENS CREEK
OLD FORT RD
Laurel Cr
ROCK CREEK RD
USGS Topo Quads - Black Mountain & Moffitt Hill
0 500 1,000 2,000
Feet
BR-0009