



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

November 4, 2021

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 Regional General Permit 50, and 401 Water Quality Certification** Replacement of Bridge No. 84 on NC 209 over Meadow Fork in Madison County, North Carolina, Division 13, TIP No. BR-0032. Debit \$240 from WBS Element No. 67032.1.1

Dear Ms. Beckwith:

The North Carolina Department of Transportation (NCDOT) proposes to replace bridge number 84 on NC 209 over Meadow Fork in Madison County with a 70' single span, cored slab bridge. Due to the absence of a viable off-site detour (13 miles long), traffic will be maintained onsite using staged construction.

This action will result in 0.01 ac of temporary construction impacts to streams from dewatering. There are no permanent impacts to streams associated with this project; therefore, no mitigation will be requested.

Please see enclosed copies of the Pre-Construction Notification (PCN), Stormwater Management Plan, and Permit Drawings. A Categorical Exclusion (CE) was completed in August 2019 and is included in the ePCN.

This project calls for a letting date of February 15, 2022, and a review date of December 28, 2021.

A copy of this permit application and its distribution list will be posted on the NCDOT Website at: <https://xfer.services.ncdot.gov/pdea/PermApps/>. If you have any questions or need additional information, please contact Jeff Hemphill at (919) 219-8581.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael L. Harris".

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

ec:
NCDOT Permit Application Standard Distribution List



Pre-Construction Notification (PCN) Form

For Nationwide Permits and Regional General Permits
(along with corresponding Water Quality Certifications)

June 1, 2021 Ver 4.1

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:*

Madison

Is this a NCDMS Project?*

Yes No

Click Yes, only if NCDMS is the applicant 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:

BR-0032

WBS #*

67032.1.1

(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

Regional General Permit (RGP) Number:

201902350 - Work associated with bridge construction, widening, replacement, and interchanges

RGP Numbers (for multiple RGPs):

List all RGP 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
 Non-404 Jurisdictional General Permit
 Individual 401 Water Quality Certification
 401 Water Quality Certification - Express
 Riparian Buffer Authorization

Pre-Filing Meeting Information

Before submitting this form please ensure you have submitted the Pre-Filing Meeting Request Form as we will not be able to accept your application without this important first step. The Pre-Filing Meeting Request Form is used in accordance with 40 C.F.R. Section 121.4(a) "At least 30 days prior to submitting a certification request, the project proponent shall request a pre-filing meeting with the

certifying agency" and in accordance with 40 C.F.R. Section 121.5(b)(7), and (c)(5) all certification requests shall include documentation that a pre-filing meeting request was submitted to the certifying authority at least 30 days prior to submitting the certification request. Click [here](#) to read more information on when this form is needed prior to application submission or [here](#) to view the form.

Is this a courtesy copy notification? *

Yes No

ID#

20210593

Version

1

Pre-filing Meeting or Request Date *

3/20/2021

Attach documentation of Pre-Filing Meeting Request here: *

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

BR-0032 2021-03-20 Pre Filing Meeting Documents.pdf

140.8KB

File type must be PDF

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)219-8581

1d. Who is applying for the permit? *

Owner

(Check all that apply)

Applicant (other than owner)

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. Contact Person:

(for Corporations)

2d. Address *

Street Address

N/A

Address Line 2

N/A

City

N/A

Postal / Zip Code

N/A

State / Province / Region

N/A

Country

N/A

2e. Telephone Number: *

(xxx)xxx-xxxx

(919)707-6123

2f. Fax Number:

(xxx)xxx-xxxx

2g. Email Address: *

pharris@ncdot.gov

3. Applicant Information (if different from owner)

3a. Name: *

NCDOT

3b. Business Name:

(if applicable)

3c. Address *

Street Address

1598 Mail Service Center

Address Line 2

City

Raleigh

Postal / Zip Code

27699-1598

State / Province / Region

NC

Country

United States

3d. Telephone Number: *

(919)707-6110

(xxx)xxx-xxxx

3e. Fax Number:

(xxx)xxx-xxxx

3f. Email Address: *

pharris@ncdot.gov

C. Project Information and Prior Project History

1. Project Information

1a. Name of project: *

BR-0032 Replacement of Bridge No. 84 on NC 209 over Meadow Fork

1b. Subdivision name:

(if appropriate)

1c. Nearest municipality / town: *

Hot Springs

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

Postal / Zip Code

State / Province / Region

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: *

Longitude: *

35.83071
ex: 34.208504

-82.86113
-77.796371

3. Surface Waters

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

Meadow Fork

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

C; Tr; ORW

[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.*

060101051202

[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:*

Bridge No. 560084 is 41' steel deck with I-beams that was built in 1938 and reconstructed in 1987. Land use is primarily undeveloped forestland with scattered residential dwellings.

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

Yes No Unknown

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

0

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

(intermittent and perennial)

100'

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

The purpose of the proposed project is to remove a structurally deficient bridge. Bridge No. 560084 was built in 1938 and reconstructed in 1987. It is 41ft long, carries two lanes, and has a clear roadway with of 19.4 feet. NCDOT Structures Management Unit records indicate Bridge No. 560084 currently has a sufficiency rating of 49.11 out of a possible 100 for a new structure. The bridge is considered structurally deficient due to a superstructure and substructure condition appraisal of 4 out of 9 according to Federal Highway Administration standards. The bridge also meets the criteria for functionally obsolete due to a deck geometry appraisal of 3 out of 9.

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

Bridge No. 560084 is 41' steel deck with I-beams that will be replaced with a two span (1@30' 21" & 1@70' 24"), core slab bridge. The new bridge will be stage-constructed, and the existing bridge will be removed in phases. Traffic will be maintained onsite during the stage-construction. 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): Nathan Howell

Agency/Consultant Company: Three Oaks

Other:

6. Future Project Plans

6a. Is this a phased project?*

Yes No

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

D. Proposed Impacts Inventory



1. Impacts Summary

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

- Wetlands Streams-tributaries Buffers
 Open Waters Pond Construction

3. Stream Impacts

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

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

	3a. Reason for impact* (?)	3b. Impact type *	3c. Type of impact *	3d. S. name *	3e. Stream Type* (?)	3f. Type of Jurisdiction *	3g. S. width* *	3h. Impact length* *
S1	Temporary construction	Temporary	Other	Meadow Fork	Perennial	Both	45 Average (feet)	99 (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:

99

3i. Total stream and ditch impacts:

99

3j. Comments:

The temporary construction impacts are for bridge demolition and construction due to the close proximity of the old structure and the water's edge.

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:*

The proposed bridge collects bridge runoff with one TB 2GI without deck drains and outlets on the left shoulder prior to where the bridge begins. Rip-rap pads will be utilized at each outlet to dissipate flow and minimize erosion. Rip-rap will be placed from the outlet to the embankment to the top of bank to avoid stream impacts. The proposed bridge maintains the existing level of service with a two span bridge. Existing vertical abutments are being retained below excavation to minimize stream impacts. Retaining walls were utilized to avoid and minimize impacts from fill slopes.

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 to streams

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

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

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

1. Diffuse Flow Plan

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

- Yes No

For a list of options to meet the diffuse flow requirements, click [here](#).

If no, explain why:

2. Stormwater Management Plan

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

Yes No

Comments:

G. Supplementary Information



1. Environmental Documentation

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

Yes No

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

Yes No

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

Yes No

2. Violations (DWR Requirement)

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

Yes No

3. Cumulative Impacts (DWR Requirement)

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

Yes No

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

Due to the minimal transportation impact resulting from this bridge replacement, this project will neither influence nearby land uses nor stimulate growth. Therefore, a detailed indirect or cumulative effects study will not be necessary.

4. Sewage Disposal (DWR Requirement)

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

Yes No N/A

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

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

Yes No

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

Yes No

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

Asheville

5d. Is another Federal agency involved? *

Yes No Unknown

What Federal Agency is involved?

Federal Highway Administration

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?*

IPAC (9/28/2021) lists two bat species for the project area. A bat memo issued September 8, 2021 state no suitable for roosting was observed on the bridge and no evidence (bats, staining, and guano) of bats was observed. No mines or caves were detected in the project area. Bridge No. 84 is approximately 18 miles to the nearest red HUC. On June 5, 2021, NV5 biologists assessed bridge No. 84 for potential gray bat habitat. No crevices suitable for roosting were present. No evidence of bats (bats, staining, or guano) was observed. Bridge No. 84 was previously surveyed in 2018 by NCDOT biologists. One abandoned structure is located in the project footprint. This structure had a collapsed roof and is well ventilated offering few roosting opportunities for bats. Based on the bridge type, and the lack of caves or mines in the project vicinity, the proposed project will have a biological conclusion of No Effect for gray bats, and 4(d) compliance for NLEB. The USFWS replied via email on 10/12/2021 indicating, "We do not have any concerns with your 4(d) conclusion."

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 on-line 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/hpweb/>)

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?*

CE, State Historical Preservation Office Memo, Archaeology Memo and Tribal Coordination.

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:

This project involves construction activities on or adjacent to FEMA-regulated stream(s). Therefore, the Division shall submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction, certifying that the drainage structure(s) and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), to determine status of project with regard to applicability of NCDOT'S Memorandum of Agreement, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

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

FEMA Flood Maps

Miscellaneous



Comments

Approximately 0.06 acre of trees will be cut for this project. Percussive activities may be involved in bridge demolition and construction.

The North Carolina Wildlife Resources Commission (NCWRC) identifies Meadow Fork as hatchery supported trout waters. Therefore, an in-stream moratorium from October 15 to April 15

Design Standards for Sensitive Watersheds will implemented for this project.

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

BR-0032 Final Permit Drawings.pdf	3.32MB
BR-0032 2019-08-26 CE.pdf	2.6MB
BR-0032 Madison 84_NoArchSurveyReq.pdf	10.37MB
BR-0032 Madison 84_NoHistPropPres.pdf	1.41MB
BR-0032 Madison 84_CIAReport.pdf	3.51MB
BR-0032_Tribal_Coordination_Letter_Catawba_12-04-2019.pdf	2.73MB
BR-0032_Tribal_Coordination_Letter_Muscogee_12-04-2019.pdf	2.73MB
BR-0032_Tribal_Coordination_Letter_United_Keetoowah_BCI_12-04-2019.pdf	2.78MB
BR-0032_Tribal_Coordination_Letter_Cherokee_Nation_12-04-2019.pdf	2.73MB
Tribal Response_Cherokee Nation_01-14-20_NCDOT COR BR-0032 Bridge 84 Replacement.pdf	215.78KB
Tribal Response Catawba.pdf	663.51KB
BR-0032 Madison County NLEB, MYGR.doc.pdf	230.68KB
BR-0032 Perrmit Application Cover Letter.pdf	298KB

File must be PDF or KMZ

Signature



*

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

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

Full Name: *

Michael Anthony Turchy

Signature *



Date

10/12/2021

Pre-Filing Meeting Review Completed for BR-0032 - 20210593 Ver 1

laserfiche@ncdenr.gov <laserfiche@ncdenr.gov>

Tue 4/20/2021 12:00 AM

To: Turchy, Michael A <maturchy@ncdot.gov>

Cc: Mitchell, Robert K <kevin.mitchell@ncdenr.gov>

The North Carolina Division of Water Resources has received the Pre-Filing Meeting Request Form for BR-0032 that you submitted on 3/20/2021 9:36 PM. The ID number for that project is 20210593, Version 1.

It has been decided that no meeting is needed for this project.

Review Comments (If provided): No meeting required.

Project file link: <https://edocs.deq.nc.gov/WaterResources/Browse.aspx?dbid=0&startid=1684563>

When you submit your application please upload a copy of the attached document in this email.


This email was automatically generated by Laserfiche workflow. Please do not respond to this email address, as responses are not monitored.

Pre-Filing Meeting Request Submittal for BR-0032

laserfiche@ncdenr.gov <laserfiche@ncdenr.gov>

Sat 3/20/2021 9:36 PM

To: Turchy, Michael A <maturchy@ncdot.gov>

 1 attachments (50 KB)

DWR Pre-Filing Meeting Request Form.pdf;

The North Carolina Division of Water Resources has received the Pre-Filing Meeting Request Form for BR-0032 that you submitted on 3/20/2021. Attached is a copy of your initial request.

This email was automatically generated by Laserfiche workflow. Please do not respond to this email address, as responses aren't monitored.

DWR Pre-Filing Meeting Request Form



Contact Name * Michael Turchy

Contact Email Address * maturchy@ncdot.gov

Project Owner * NCDOT

Project Name * BR-0032

Project County * Madison

Owner Address: *

Street Address	
1598 Mail Service Center	
Address Line 2	
City	State / Province / Region
Raleigh	NC
Postal / Zip Code	Country
27699	US

Is this a transportation project? * Yes No

Type(s) of approval sought from the DWR:

- 401 Water Quality Certification - Regular 401 Water Quality Certification - Express
- Individual Permit Modification
- Shoreline Stabilization

Does this project have an existing project ID#? *

Yes No

Do you know the name of the staff member you would like to request a meeting with?

no meeting requested

Please give a brief project description below. *

Replacement of Bridge 84 on NC 209 over Meadow Fork.

Please give a couple of dates you are available for a meeting.

Please attach the documentation you would like to have the meeting about.

pdf only

By digitally signing below, I certify that I have read and understood that per the Federal Clean Water Act Section 401 Certification Rule the following statements:

- This form completes the requirement of the Pre-Filing Meeting Request in the Clean Water Act Section 401 Certification Rule.

- I understand by signing this form that I cannot submit my application until 30 calendar days after this pre-filing meeting request.
- I also understand that DWR is not required to respond or grant the meeting request.

Your project's thirty-day clock started upon receipt of this application. You will receive notification regarding meeting location and time if a meeting is necessary. You will receive notification when the thirty-day clock has expired, and you can submit an application.

Signature *

A rectangular box containing a handwritten signature in black ink that reads "Michael Turchy".

Submittal Date

3/20/2021



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS



(Version 2.08; Released April 2018)

WBS Element: 67032.1.1 TIP No.: BR-0032 County(ies): Madison Page 1 of 2

General Project Information

WBS Element:	67032.1.1	TIP Number:	BR-0032	Project Type:	Bridge Replacement	Date:	7/20/2021
NCDOT Contact:	David Stutts, P.E.		Contractor / Designer:	Jason Patskoski, P.E., PhD			
Address:	Structures Management Unit 1000 Birch Ridge Drive Raleigh, NC 27610		Address:	Summit Design and Engineering Services 100 East Six Forks Road, Suite 300 Raleigh, NC 27609			
	Phone:	(919) 707-6442		Phone:	(919) 322-0115		
	Email:	dstutts@ncdot.gov		Email:	jason.patskoski@summitde.net		
City/Town:	Spring Creek		County(ies):	Madison			
River Basin(s):	French Broad		CAMA County?	No			
Wetlands within Project Limits?	No						

Project Description

Project Length (lin. miles or feet):	0.13	Surrounding Land Use:	Rural Area with Wooded, Agricultural, and Residential Land Uses					
	Proposed Project		Existing Site					
Project Built-Upon Area (ac.)	0.5	ac.	0.4	ac.				
Typical Cross Section Description:	2 lane road with 10' travel lanes and 3' paved shoulders. The total bridge length is 100' with an out to out width of 36'.			2 lane road with 9' travel lane. The total bridge length is 41' and width is 19'-5".				
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	600	Year:	2040	Existing:	330	Year:	2013
General Project Narrative: (Description of Minimization of Water Quality Impacts)	State Project involves the replacement of NCDOT Bridge 560084 over Meadow Fork Creek on NC 209 in Madison County. The existing structure is a 41 feet long, 1 span (1 @41') steel deck with I beams. The proposed structure will be a two span 1 @30' 21" cored slab and 1 @70' 24" cored slab with vertical abutments (2.5' caps) with an out to out deck width of 36 feet. The existing bridge has deck drains. The proposed bridge collects bridge runoff with one TB 2GI without deck drains and outlets on the left shoulder prior to where the bridge begins. Rip-rap pads will be utilized at each outlet to dissipate flow and minimize erosion. Rip-rap will be placed from the outlet to the embankment to the top of bank to avoid stream impacts. The proposed bridge maintains the existing level of service with two span bridge. Existing concrete footings will be retained and tied to the bank stabilization.							

Waterbody Information

Surface Water Body (1):	Spring Creek		NCDWR Stream Index No.:	6-118-(1)			
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C				
	Supplemental Classification:		(ORW)		Trout Waters (Tr)		
Other Stream Classification:	Waters						
Impairments:	None						
Aquatic T&E Species?	No	Comments:					
NRTR Stream ID:	Spring Creek			Buffer Rules in Effect:	N/A		
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	No	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)							



North Carolina Department of Transportation
Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS



(Version 2.08; Released April 2018)

WBS Element: 67032.1.1
TIP No.: BR-0032
County(ies): Madison
Page 2 **of** 2

Additional Waterbody Information

Surface Water Body (2):	Meadow Fork	NCDWR Stream Index No.:	6-118-19
NCDWR Surface Water Classification for Water Body	Primary Classification:	Class C	
	Supplemental Classification:	(ORW)	Trout Waters (Tr)
Other Stream Classification:	Waters		
Impairments:	None		
Aquatic T&E Species?	No	Comments:	
NRTR Stream ID:	Meadow Fork	Buffer Rules in Effect:	N/A
Project Includes Bridge Spanning Water Body?	Yes	Deck Drains Discharge Over Buffer?	No
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)	Dissipator Pads Provided in Buffer?
(If yes, provide justification in the General Project Narrative)			No (If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)

09.08/199

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MADISON COUNTY

LOCATION: BRIDGE NO. 84 ON NC 209
OVER MEADOW FORK CREEK

TYPE OF WORK: GRADING, DRAINAGE, PAVING, RETAINING WALL AND STRUCTURE.

WETLAND AND SURFACE WATER IMPACTS PERMIT

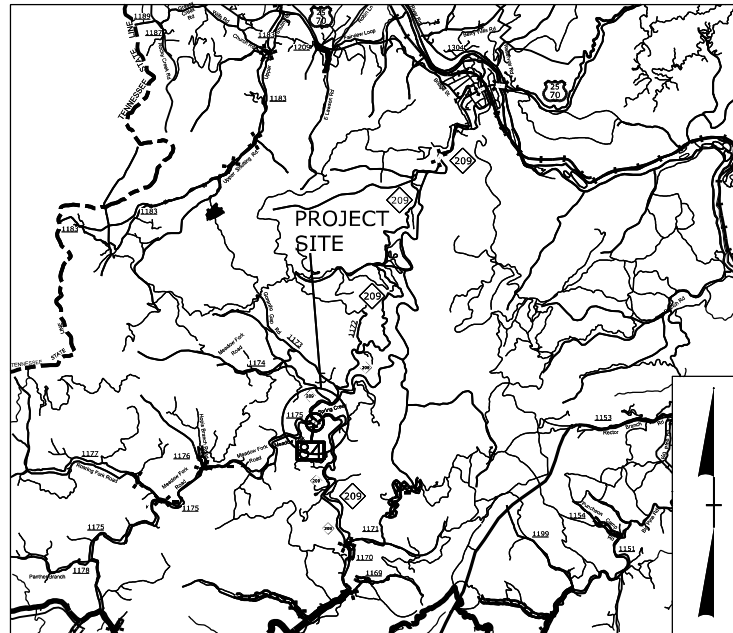
**PERMIT DRAWING
SHEET 1 OF 6**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BR-0032	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
67032.1.1		PE	
67032.2.1		ROW & UTILITIES	

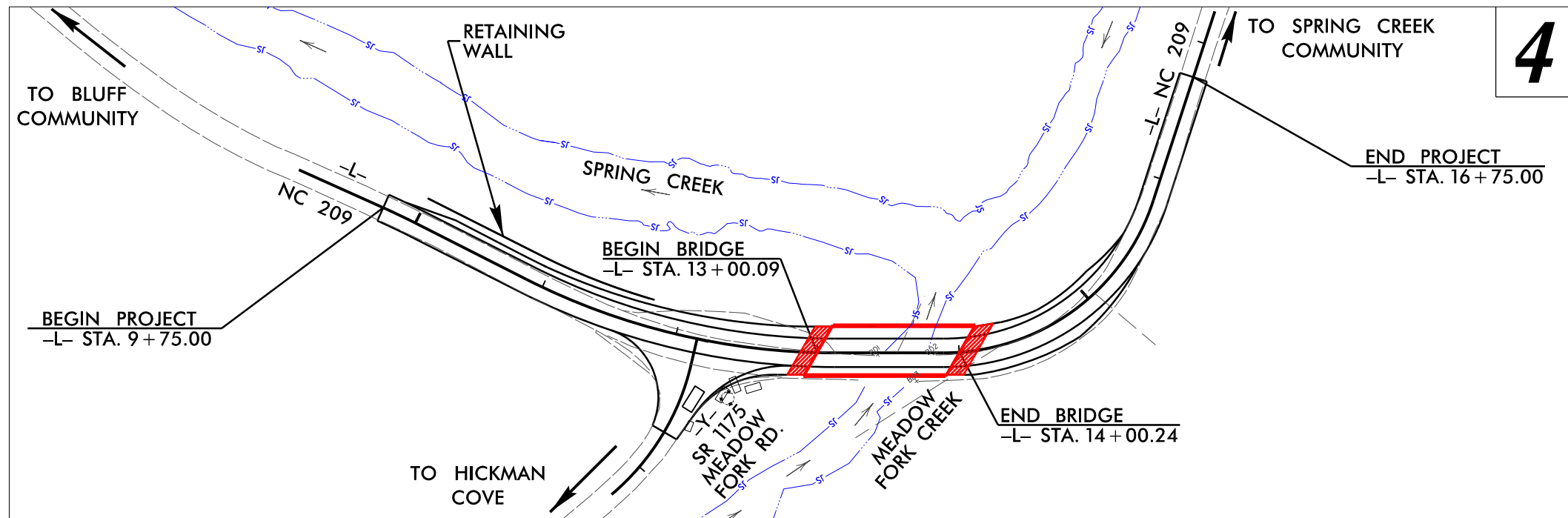
75% REV. PLANS



TIP PROJECT: BR-0032



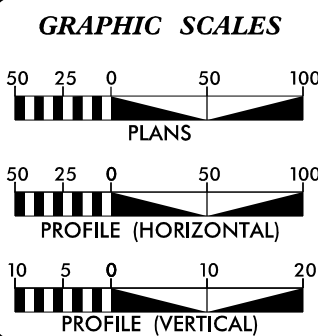
VICINITY MAP



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

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

CONTRACT:



DESIGN DATA

ADT 2020 =	460 vpd
ADT 2040 =	600 vpd
D =	60 %
K =	10 %
T =	13 % *
* V =	25 MPH
* TTST =	1% DUAL 12%
FUNC CLASS =	RURAL COLLECTOR
SUB REGIONAL TIER	

PROJECT LENGTH

LENGTH ROADWAY PROJECT =	0.114 MILES
LENGTH STRUCTURES PROJECT =	0.019 MILES
TOTAL LENGTH PROJECT =	0.133 MILES
NCDOT CONTACT:	DAVID STUTTS, PE PROJECT MANAGER

Prepared In the Office of:

504 Meadowland Drive
Hillsborough, NC 27278-8551
Voice: (919) 732-3883
Fax: (919) 732-6776
www.summit-engineer.com

2018 STANDARD SPECIFICATIONS

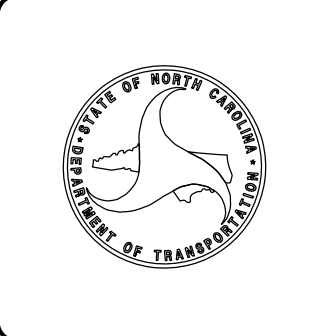
RIGHT OF WAY DATE: AUGUST 27, 2019	JAMES A. SPEER, PE PROJECT ENGINEER
LETTING DATE: FEBRUARY 15, 2022	JEFFREY P. MUHLBAUER, PE PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

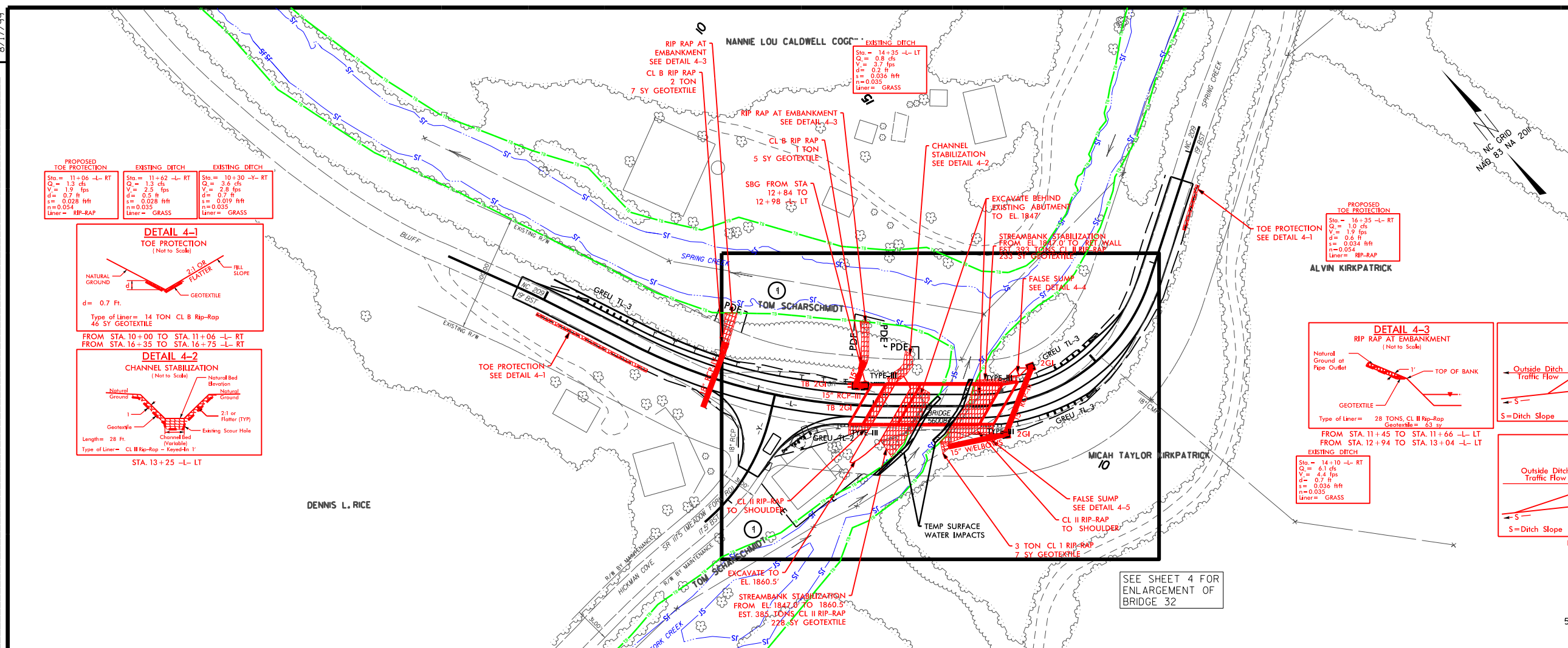
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SIGNATURE: _____ P.E.

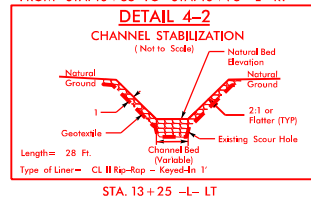
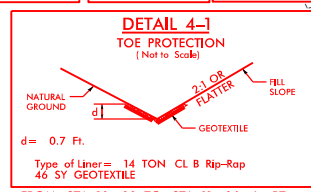


20-JUL-2021 13:01
BR-0032-Hyd.-tsh.dgn
he.yang

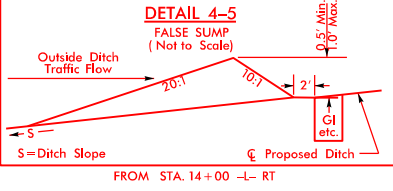
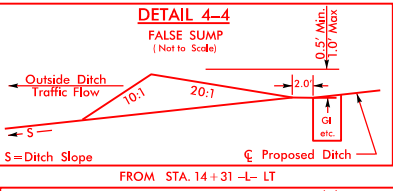
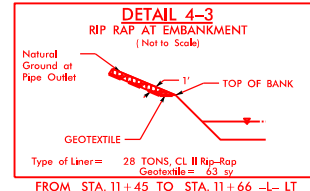
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SHEET 2 OF 6



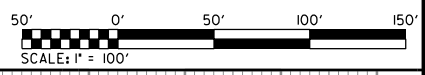
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Sta. = 11+06 -L- RT Q = 1.3 cfs V = 1.9 fps d = 0.7 ft s = 0.028 ft/ft n = 0.054 Liner = RIP-RAP	Sta. = 11+62 -L- RT Q = 1.3 cfs V = 2.5 fps d = 0.5 ft s = 0.028 ft/ft n = 0.035 Liner = GRASS	Sta. = 10+30 -Y- RT Q = 3.6 cfs V = 2.8 fps d = 0.7 ft s = 0.019 ft/ft n = 0.035 Liner = GRASS



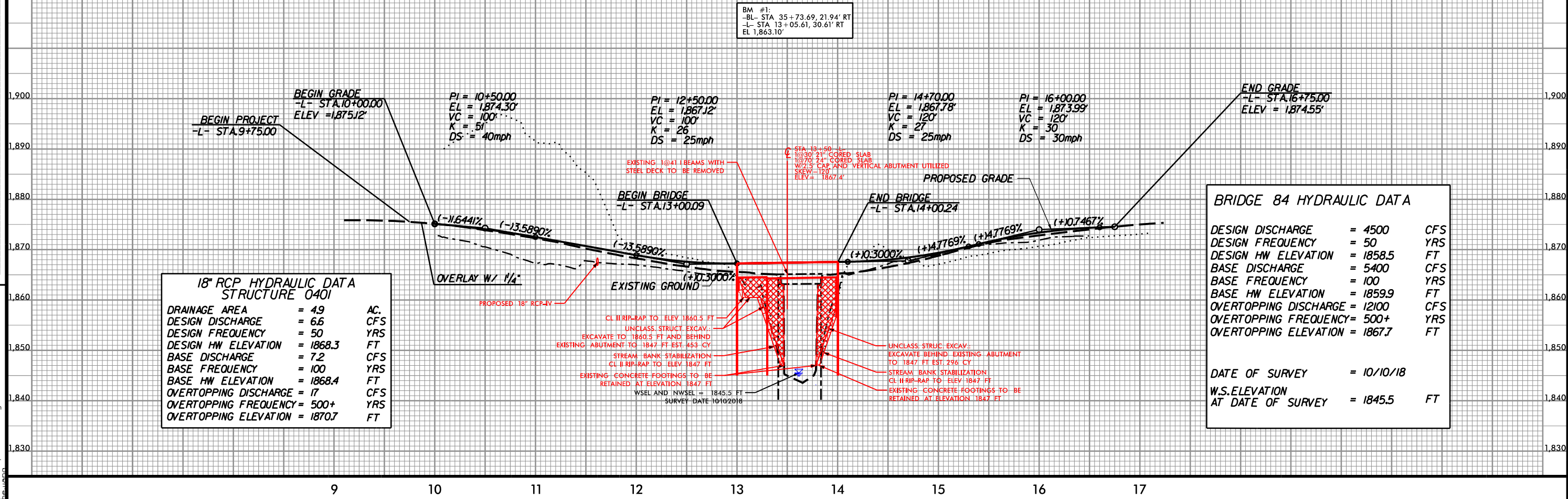
PROPOSED TOE PROTECTION
Sta. = 16+35 -L- RT Q = 1.0 cfs V = 1.9 fps d = 0.6 ft s = 0.034 ft/ft n = 0.054 Liner = RIP-RAP



DENOTES TEMPORARY IMPACTS IN SURFACE WATER



REVISIONS



18" RCP HYDRAULIC DATA
STRUCTURE 0401

DRAINAGE AREA	= 49	AC.
DESIGN DISCHARGE	= 6.6	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 1868.3	FT
BASE DISCHARGE	= 7.2	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 1868.4	FT
OVERTOPPING DISCHARGE	= 17	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 1870.7	FT

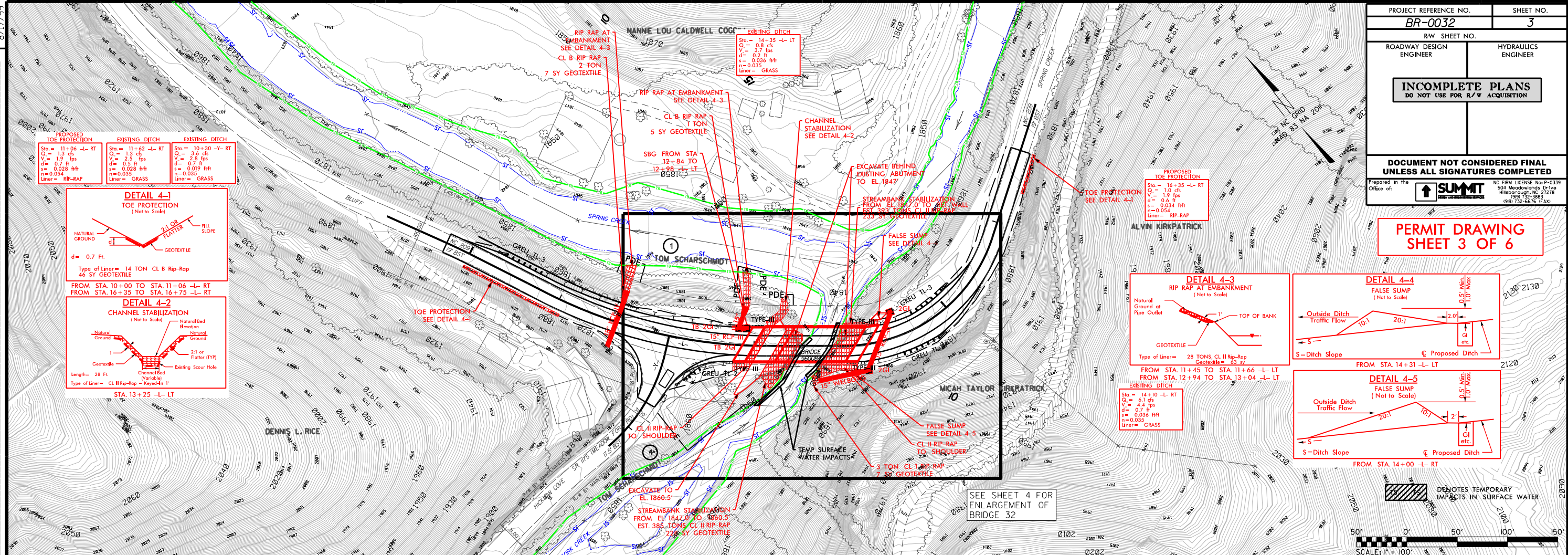
BRIDGE 84 HYDRAULIC DATA

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DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 1858.5	FT
BASE DISCHARGE	= 5400	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 1859.9	FT
OVERTOPPING DISCHARGE	= 12100	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 1867.7	FT

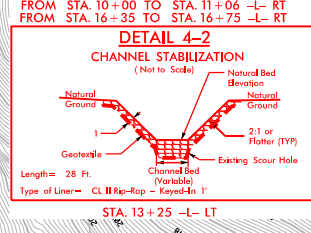
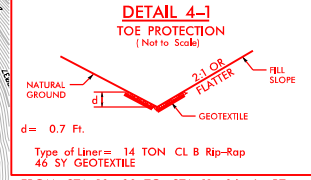
DATE OF SURVEY = 10/10/18
W.S. ELEVATION AT DATE OF SURVEY = 1845.5 FT

BR-0032-202113.dgn

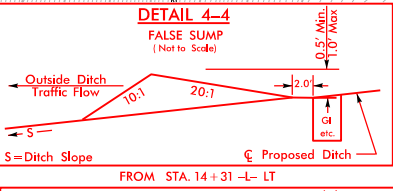
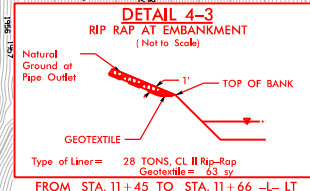
PERMIT DRAWING
SHEET 3 OF 6



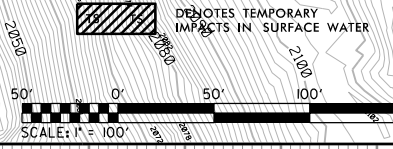
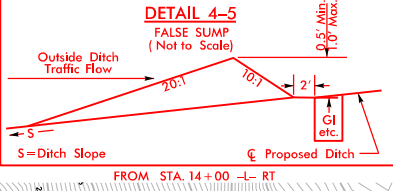
PROPOSED TOE PROTECTION	EXISTING DITCH	EXISTING DITCH
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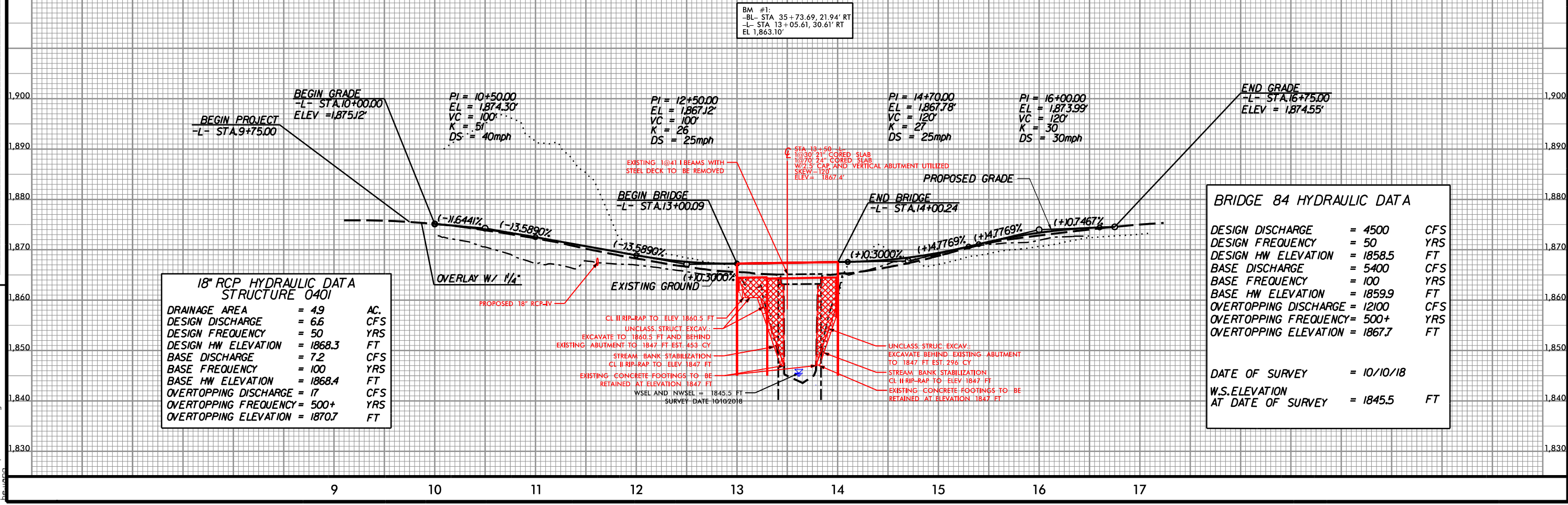
PROPOSED TOE PROTECTION
Sta. = 16+35 -L- RT Q = 1.0 cfs V = 1.9 fps d = 0.7 ft s = 0.034 f/ft Liner = RIP-RAP



PROPOSED TOE PROTECTION
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REVISIONS



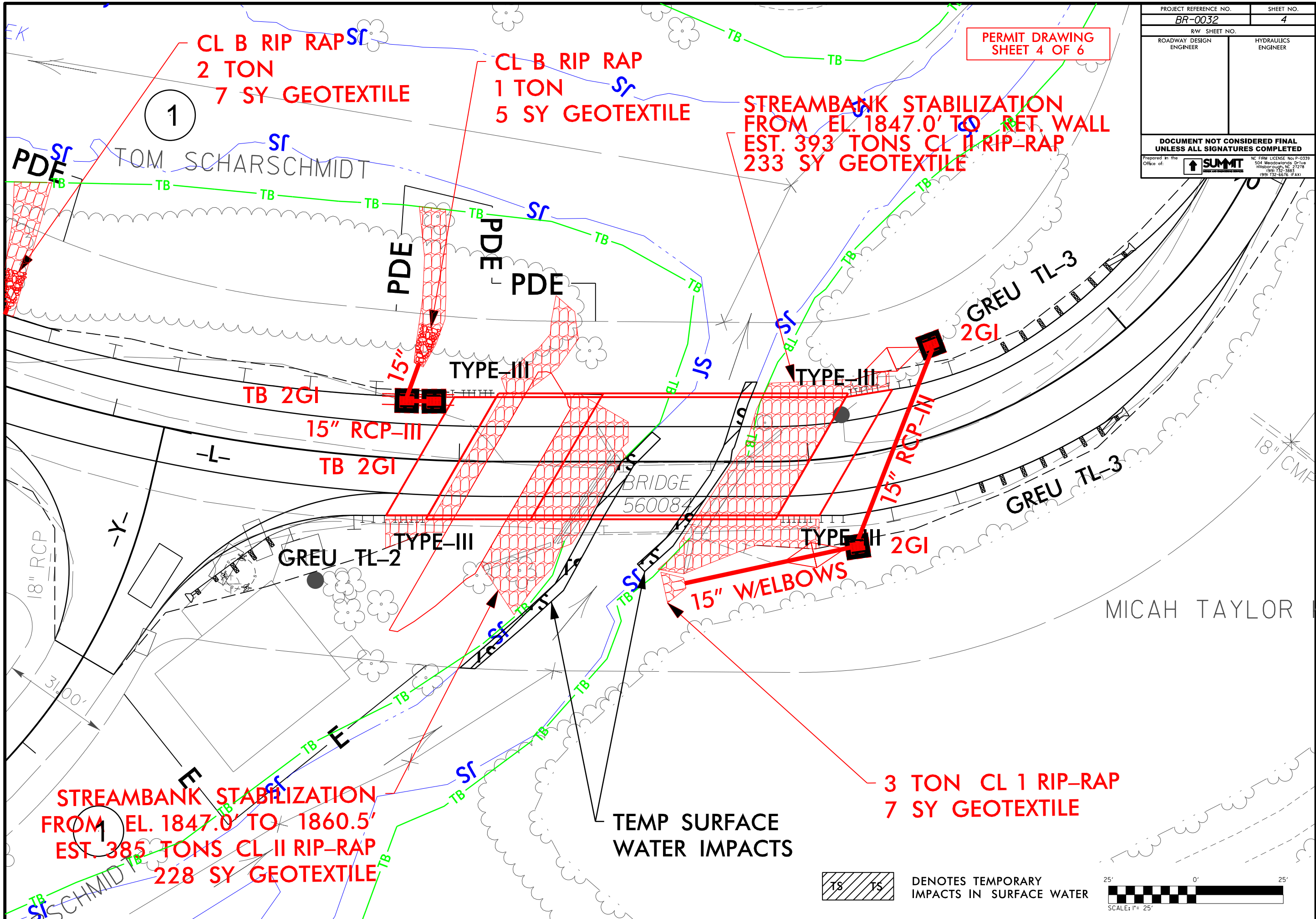
18" RCP HYDRAULIC DATA STRUCTURE 0401	
DRAINAGE AREA	= 49 AC.
DESIGN DISCHARGE	= 6.6 CFS
DESIGN FREQUENCY	= 50 YRS
DESIGN HW ELEVATION	= 1868.3 FT
BASE DISCHARGE	= 7.2 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 1868.4 FT
OVERTOPPING DISCHARGE	= 17 CFS
OVERTOPPING FREQUENCY	= 500+ YRS
OVERTOPPING ELEVATION	= 1870.7 FT

BRIDGE 84 HYDRAULIC DATA	
DESIGN DISCHARGE	= 4500 CFS
DESIGN FREQUENCY	= 50 YRS
DESIGN HW ELEVATION	= 1858.5 FT
BASE DISCHARGE	= 5400 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 1859.9 FT
OVERTOPPING DISCHARGE	= 12100 CFS
OVERTOPPING FREQUENCY	= 500+ YRS
OVERTOPPING ELEVATION	= 1867.7 FT
DATE OF SURVEY	= 10/10/18
W.S. ELEVATION AT DATE OF SURVEY	= 1845.5 FT

BR-0032-202113-01-3.dgn

PROJECT REFERENCE NO. BR-0032	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Prepared in the Office of:	 <small>NC FIRM LICENSE No. P-0339 504 Meadowslands Drive Hillsborough, NC 27278 (919) 732-3883 (919) 732-6676 (FAX)</small>

PERMIT DRAWING
SHEET 4 OF 6



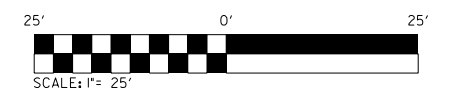
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FROM EL. 1847.0' TO 1860.5'
EST. 385 TONS CL II RIP-RAP
228 SY GEOTEXTILE**


**STREAMBANK STABILIZATION
FROM EL. 1847.0' TO RET. WALL
EST. 393 TONS CL II RIP-RAP
233 SY GEOTEXTILE**

**3 TON CL I RIP-RAP
7 SY GEOTEXTILE**

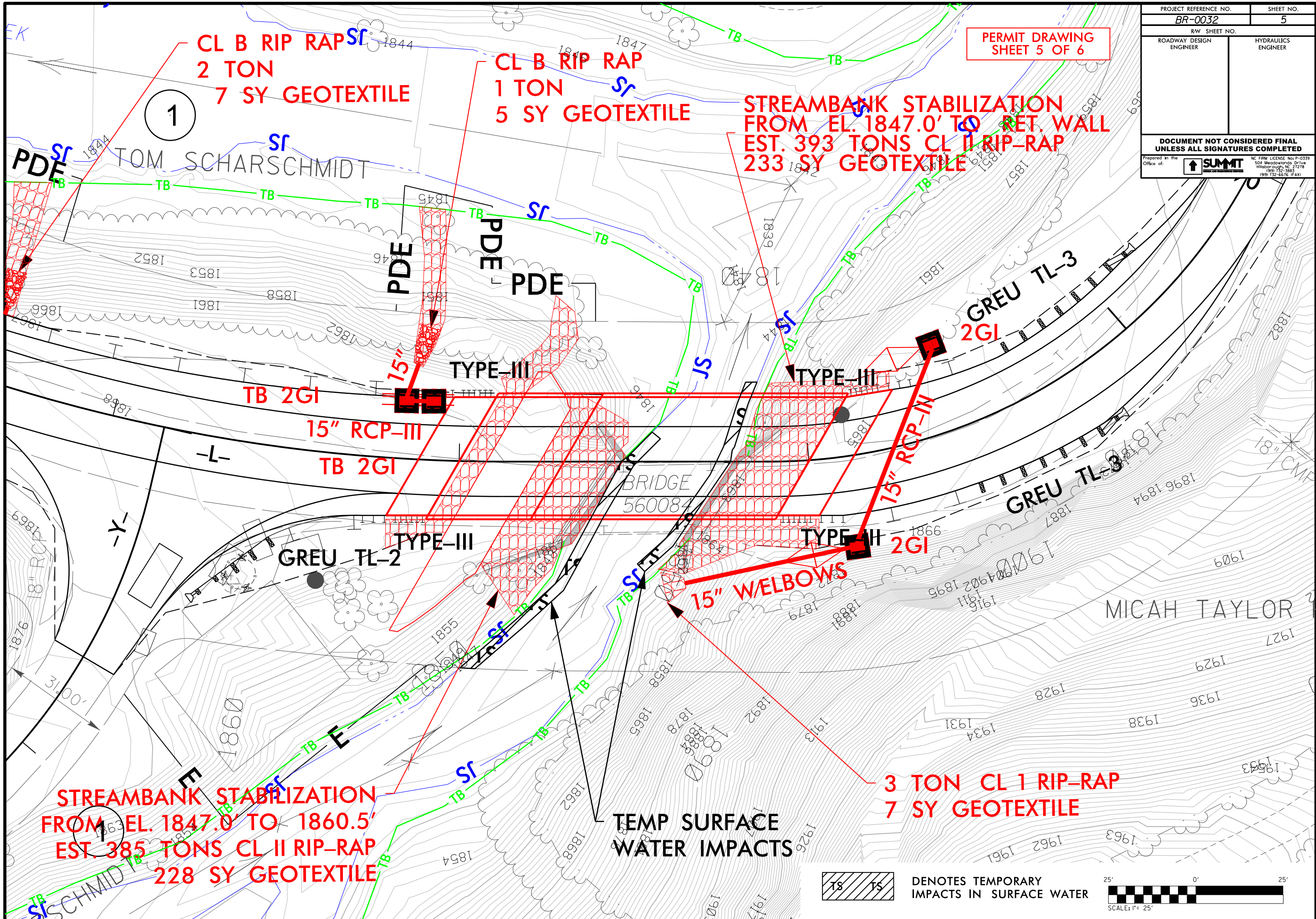


DENOTES TEMPORARY
IMPACTS IN SURFACE WATER



PROJECT REFERENCE NO. BR-0032	SHEET NO. 5
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Prepared in the Office of:	 <small>NC P.E. LICENSE NO. P-0339 504 Meadows Drive Hillsborough, NC 27278 (919) 732-3883 (919) 732-6676 (FAX)</small>

**PERMIT DRAWING
SHEET 5 OF 6**



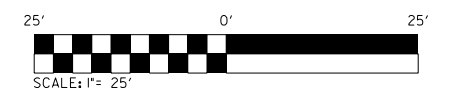
**STREAMBANK STABILIZATION
FROM EL. 1847.0' TO 1860.5'
EST. 385 TONS CL II RIP-RAP
228 SY GEOTEXTILE**

**3 TON CL 1 RIP-RAP
7 SY GEOTEXTILE**

**TEMP SURFACE
WATER IMPACTS**



**DENOTES TEMPORARY
IMPACTS IN SURFACE WATER**





STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

September 8, 2021

TO: Jeff Hemphill, Environmental Senior Specialist
Environmental Coordination & Permitting Group, EAU

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

SUBJECT: Section 7 survey results for the northern long-eared bat (*Myotis septentrionalis*), and gray bat (*Myotis grisescens*) associated with the replacement of Bridge No. 84 over Meadow Fork on NC 209 in Madison County, **TIP No. BR-0032.**

The North Carolina Department of Transportation (NCDOT, Division 13) proposes to replace Bridge No. 84 over Meadow Fork on NC 209 in Madison County, TIP No. BR-0032. The existing bridge is a single span structure with steel beams, metal deck and guard rails, and concrete end walls. The overall length of the structure is 41 feet.

Northern long-eared bat

The project to replace Bridge No. 84 has been reviewed for effects on the northern long-eared bat (NLEB). As of May 4, 2015, NLEB is listed by the U.S. Fish and Wildlife Service (USFWS) as "Threatened" under the Endangered Species Act of 1973. As of September 8, 2021, NLEB is listed in IPaC (<https://ecos.fws.gov/ipac/>) as occurring in Madison County. USFWS also established a final rule under the authority of section 4(d) of the Endangered Species Act that provides measures for the conservation of NLEB. The USFWS has tailored the final 4(d) rule to prohibit the take of NLEB from certain activities within areas where they are in decline. This incidental take protection applies only to known NLEB occupied maternity roost trees and known NLEB hibernacula. Effective February 16, 2016, incidental take resulting from tree removal is prohibited if it 1) occurs within a ¼ mile radius of known NLEB hibernacula; or 2) cuts or destroys known occupied maternity roost trees or any other trees within a 150-foot radius from the known maternity tree during the pup season (June 1-July 31).

According to the North Carolina Natural Heritage Program (NHP) Biotics Database, most recently updated July 2021, **the nearest NLEB hibernacula record is 30 miles east of the project and no known NLEB roost trees occur within 150 feet of the project area.**

NCDOT has also reviewed the USFWS Asheville Field office website (http://www.fws.gov/asheville/htmls/project_review/NLEB_in_WNC.html) for consistency with NHP records. This project is located entirely outside of the red highlighted areas (12-digit HUC) that the USFWS Asheville Field Office has determined to be representative of an area that may require consultation. The closest 12 digit (060101060301) red HUC is approximately 18.5 miles away (Upper Cataloochee Creek).

For the proposed action, NCDOT has committed to the conservation measures listed below:

- 1) No alterations of a known hibernacula entrance or interior environment if it impairs an essential behavioral pattern, including sheltering northern long-eared bats (January 1 through December 31);
- 2) No tree removal within a 0.25 mile radius of a known hibernacula (January 1 through December 31); and
- 3) No cutting or destroying a known, occupied maternity roost tree, or any other trees within a 150-foot radius from the known, occupied maternity tree during the period from June 1 through and including July 31.

NCDOT has determined that the proposed action does not require separate consultation on the grounds that the proposed action is consistent with the final Section 4(d) rule, codified at 50 C.F.R. § 17.40(o) and effective February 16, 2016. NCDOT may presume its determination is informed by best available information and consider Section 7 responsibilities fulfilled for NLEB.

Gray bat

The project to replace Bridge No. 84 has also been reviewed for effects on the gray bat (MYGR). As of April 28, 1976, the gray bat was listed by the U.S. Fish and Wildlife Service (USFWS) as “Endangered” under the Endangered Species Act of 1973. As of September 8, 2021, MYGR is listed in IPaC (<https://ecos.fws.gov/ipac/>) as occurring in Madison County.

According to the North Carolina Natural Heritage Program (NHP) Biotics Database, most recently updated in July 2021, MYGR have been documented in Madison County. USFWS, North Carolina Wildlife Resources Commission (WRC) and NHP data indicate that **the closest known occurrence of MYGR is approximately 6 miles east of the project site.**

On June 5, 2021, NV5 biologists assessed bridge No. 84 for potential gray bat habitat. No crevices suitable for roosting were present. No evidence of bats (bats, staining, or guano) was observed. Bridge No. 84 was previously surveyed in 2018 by NCDOT biologists. No evidence of bats in any form (bats, guano, staining) was observed during that survey. No caves or mines are located within the project footprint or within line of sight of the bridge. One abandoned structure is located in the project footprint. This structure had a collapsed roof and is well ventilated offering few roosting opportunities for bats. Based on the bridge type, and the lack of caves or mines in the project vicinity, the proposed project will have a biological conclusion of ***No Effect*** for gray bats.

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



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: **BR-0032** County: **Madison**
 WBS No: **67032.3.1** Document: **MCC**
 F.A. No: Funding: State Federal

Federal Permit Required? Yes No Permit Type: **USACE**

Project Description: The project involves the replacement of Bridge # 84 over Meadow Fork on NC 209 in Madison County, North Carolina. The archaeological Area of Potential Effects (APE) measures .50 mile in length and 150 feet in width (75 feet from the NC 209 center-line).

SUMMARY OF CULTURAL RESOURCES REVIEW

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

Permitting and funding information was reviewed for determining the level of archaeological input required by state and federal laws. Based on the submitted "request for cultural resources review" form, the project is state-funded with federal permit interaction. As such, Section 106 of the National Historic Preservation Act will apply and the United States Army Corps of Engineers (USACE) will serve as the lead federal agency. Next, construction design and other data was examined (when applicable) to define the character and extent of potential impacts to the ground surfaces embracing the project locale.

Once an APE was outlined, a map review and site file search was conducted at the Office of State Archaeology (OSA) on Wednesday, January, 24 2018. No previously documented archaeological sites are located in the APE or directly adjacent.

Examination of National Register of Historic Places (NRHP), State Study Listed (SL), Locally Designated (LD), Determined Eligible (DE), and Surveyed Site (SS) properties employing resources available on the NCSHPO website is important in establishing the location of noteworthy historic occupations related to a perspective construction impact area. A cross-check of these mapped resources concluded that none of the above properties with potential contributing archaeological components are situated within or proximal to the APE. In addition, historic maps of Madison County were appraised to identify former structure locations, land use patterns, cemeteries, or other confirmation of historic occupation in the project vicinity. Archaeological/historical reference materials were inspected as well. In general, the cultural background review established that no previously recorded archaeological sites, NRHP properties, or cemeteries are located within the APE. Based on cultural-historical factors, the APE is considered to have a low potential for the documentation of archaeological resources.

Further, topographic, geologic, flood boundary, and NRCS soil survey maps (CfF, TsD, ArF) were referenced to evaluate pedecological, geomorphological, hydrological, and other environmental determinants that may have resulted in past occupation at this location. Aerial and on-ground photographs (NCDOT Spatial Data Viewer) and the Google Street View map application (when amenable) were also examined/utilized for additional assessment of disturbances, both natural and human induced, which compromise the integrity of archaeological sites. Environmental/impact factors do not suggest a heightened potential for archaeological resource recovery.

17-12-0046

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 majority of the APE is characterized as heavily sloping at 15% to 95%. Historic or prehistoric settlement would be typically found at slope percentages below 15%. Therefore, the APE is unlikely to contain significant, intact, and preserved archaeological deposits eligible for NRHP inclusion. As currently proposed as a state-funded project with federal permit interaction, no further consultation is advocated. A finding of "no archaeological survey required" is considered appropriate.

SUPPORT DOCUMENTATION

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

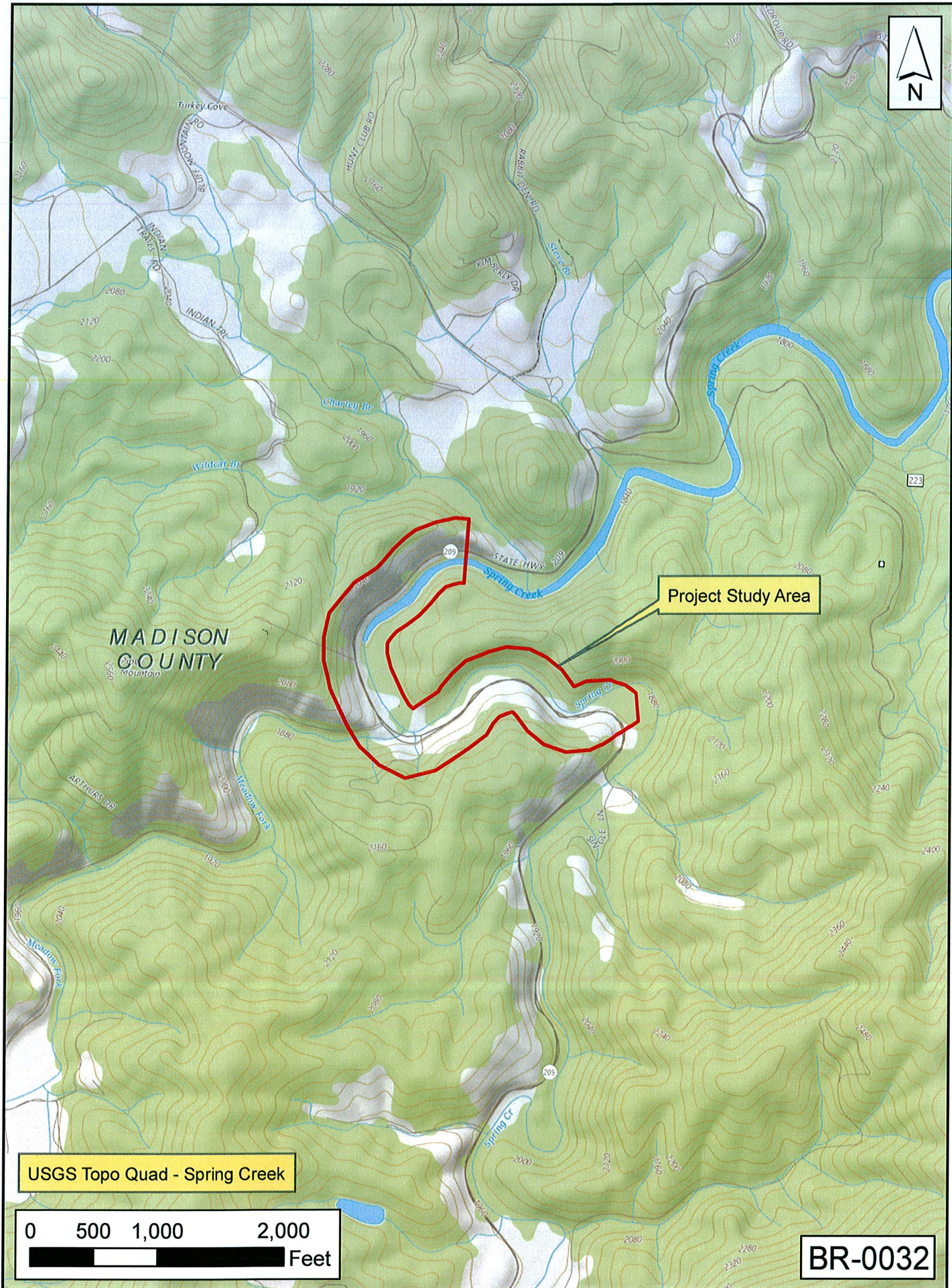
FINDING BY NCDOT ARCHAEOLOGIST

NO ARCHAEOLOGY SURVEY REQUIRED

Scott Eric Halverson

NCDOT

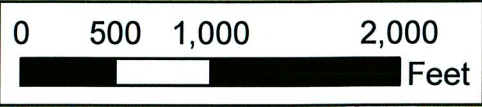
1-25-2018



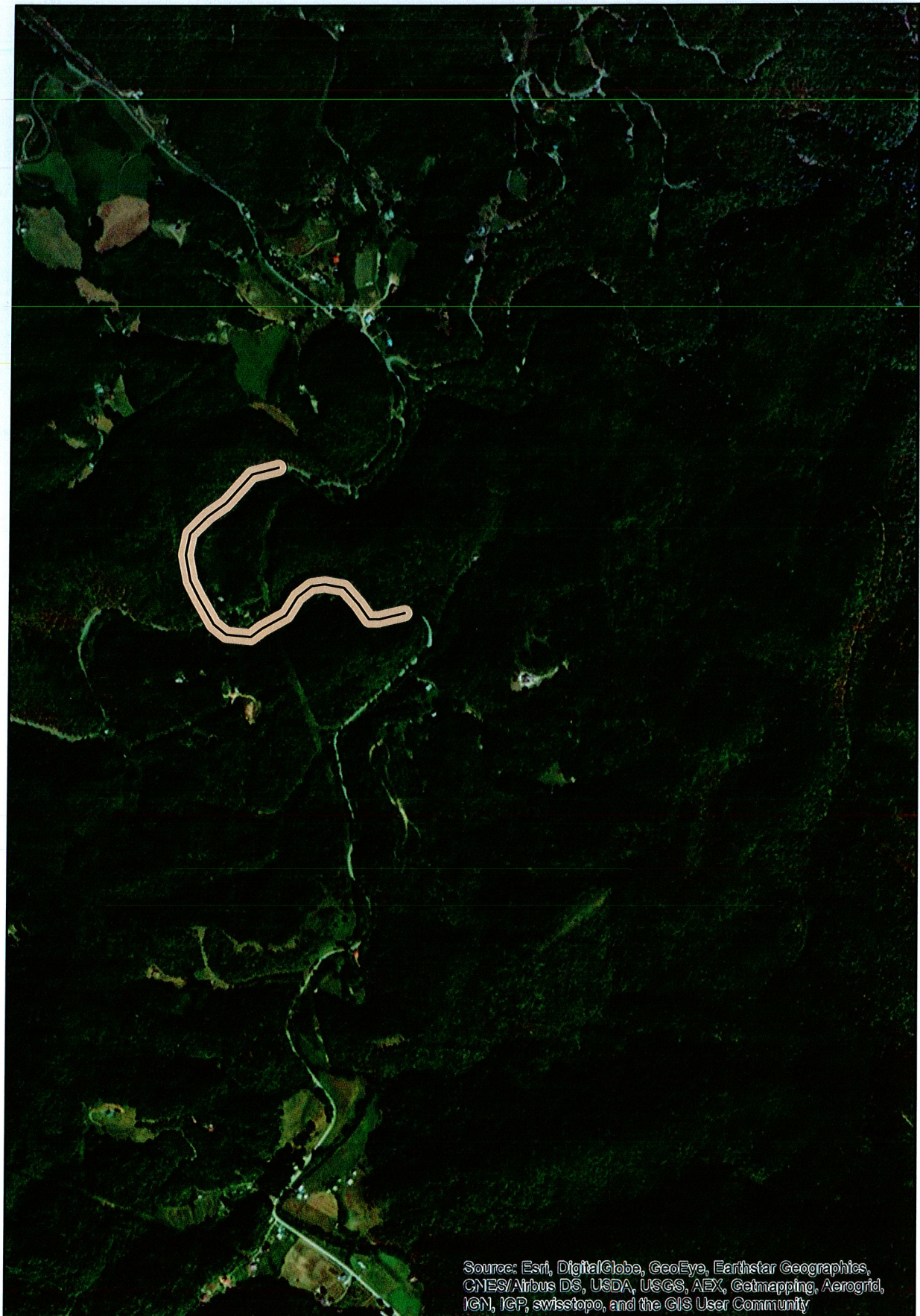
MADISON
COUNTY
Mountain

Project Study Area

USGS Topo Quad - Spring Creek

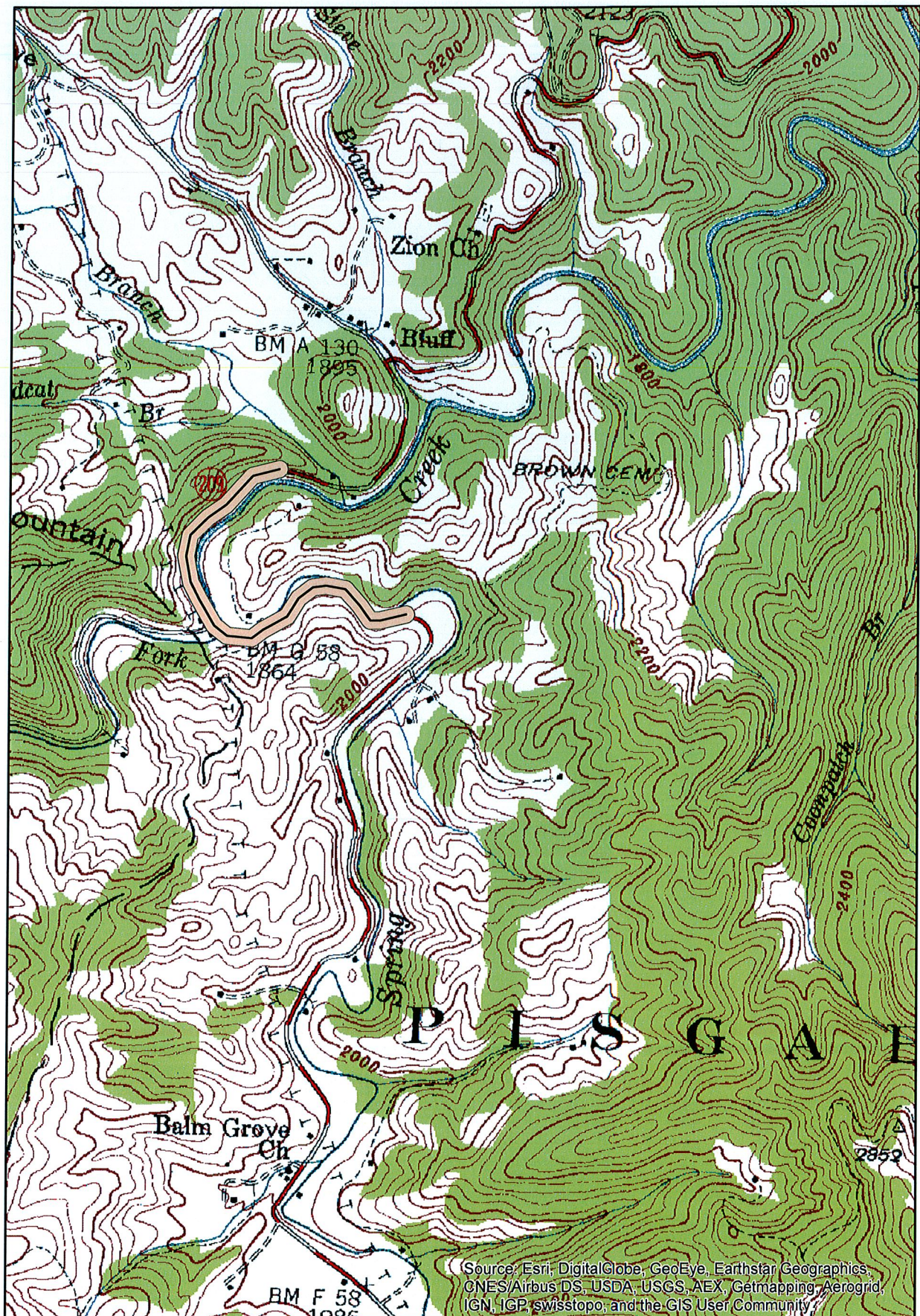


BR-0032



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

ARC-GIS image relating the location and boundaries of the archaeological Area of Potential Effects (APE) in Madison County, North Carolina.



Portion of the Spring Creek topographic map showing the location and boundaries of the archaeological Area of Potential Effects (APE) in Madison County, North Carolina.



CfF—Cataska-Sylco-Rock outcrop complex, 50 to 95 percent slopes, very stony

Map Unit Setting

- *National map unit symbol: 1t34t*
- *Elevation: 2,200 to 5,000 feet*
- *Mean annual precipitation: 40 to 50 inches*
- *Mean annual air temperature: 46 to 57 degrees F*
- *Frost-free period: 124 to 176 days*
- *Farmland classification: Not prime farmland*

Map Unit Composition

- *Cataska, very stony, and similar soils: 40 percent*
- *Sylco, very stony, and similar soils: 30 percent*
- *Rock outcrop: 20 percent*
- *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Cataska, Very Stony

Setting

- *Landform: Mountain slopes*
- *Down-slope shape: Convex*
- *Across-slope shape: Convex*
- *Parent material: Affected by soil creep in the upper solum over residuum weathered from phyllite and/or slate and/or other metasedimentary rock*

Typical profile

- *A - 0 to 4 inches: channery silt loam*

- *Bw - 4 to 12 inches*: very channery silt loam
- *Cr - 12 to 28 inches*: weathered bedrock
- *R - 28 to 80 inches*: unweathered bedrock

Properties and qualities

- *Slope*: 50 to 95 percent
- *Percent of area covered with surface fragments*: 1.6 percent
- *Depth to restrictive feature*: 10 to 20 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock
- *Natural drainage class*: Excessively drained
- *Runoff class*: High
- *Capacity of the most limiting layer to transmit water (Ksat)*: Very low to high (0.00 to 1.98 in/hr)
- *Depth to water table*: More than 80 inches
- *Frequency of flooding*: None
- *Frequency of ponding*: None
- *Available water storage in profile*: Very low (about 1.1 inches)

Interpretive groups

- *Land capability classification (irrigated)*: None specified
- *Land capability classification (nonirrigated)*: 7s
- *Hydrologic Soil Group*: D
- *Hydric soil rating*: No

Description of Sylco, Very Stony

Setting

- *Landform*: Mountain slopes
- *Down-slope shape*: Convex
- *Across-slope shape*: Convex
- *Parent material*: Affected by soil creep in the upper solum over residuum weathered from phyllite and/or slate and/or other metasedimentary rock

Typical profile

- *A - 0 to 5 inches*: channery loam
- *Bw - 5 to 23 inches*: very channery loam
- *R - 23 to 80 inches*: unweathered bedrock

Properties and qualities

- *Slope*: 50 to 95 percent
- *Percent of area covered with surface fragments*: 1.6 percent
- *Depth to restrictive feature*: 20 to 40 inches to lithic bedrock
- *Natural drainage class*: Well drained
- *Runoff class*: High
- *Capacity of the most limiting layer to transmit water (Ksat)*: Very low to high (0.00 to 1.98 in/hr)
- *Depth to water table*: More than 80 inches
- *Frequency of flooding*: None
- *Frequency of ponding*: None
- *Available water storage in profile*: Low (about 3.0 inches)

Interpretive groups

- *Land capability classification (irrigated)*: None specified
- *Land capability classification (nonirrigated)*: 7s
- *Hydrologic Soil Group*: B
- *Hydric soil rating*: No

Description of Rock Outcrop

Setting

- *Landform*: Mountain slopes, ridges
- *Parent material*: Slate and/or phyllite

Typical profile

- *R - 0 to 80 inches*: bedrock

Properties and qualities

- *Depth to restrictive feature:* 0 inches to lithic bedrock
- *Runoff class:* Very high
- *Capacity of the most limiting layer to transmit water (Ksat):* Very low to low (0.00 to 0.01 in/hr)
- *Available water storage in profile:* Very low (about 0.0 inches)

Interpretive groups

- *Land capability classification (irrigated):* None specified
- *Land capability classification (nonirrigated):* 8s
- *Hydric soil rating:* No

TsD—Toecane-Tusquitee complex, 15 to 30 percent slopes, very bouldery

Map Unit Setting

- *National map unit symbol:* 1t38w
- *Elevation:* 2,400 to 4,800 feet
- *Mean annual precipitation:* 40 to 54 inches
- *Mean annual air temperature:* 46 to 57 degrees F
- *Frost-free period:* 100 to 150 days
- *Farmland classification:* Not prime farmland

Map Unit Composition

- *Toecane, very bouldery, and similar soils:* 50 percent
- *Tusquitee, very bouldery, and similar soils:* 40 percent
- *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Toecane, Very Bouldery

Setting

- *Landform:* Drainageways, coves, fans
- *Down-slope shape:* Concave
- *Across-slope shape:* Concave
- *Parent material:* Cobbly and stony colluvium derived from igneous and metamorphic rock

Typical profile

- *A - 0 to 8 inches:* cobbly loam
- *Bt1 - 8 to 24 inches:* very cobbly loam
- *Bt2 - 24 to 30 inches:* very cobbly sandy loam
- *C - 30 to 80 inches:* extremely cobbly loamy sand

Properties and qualities

- *Slope:* 15 to 30 percent
- *Percent of area covered with surface fragments:* 1.5 percent
- *Depth to restrictive feature:* More than 80 inches
- *Natural drainage class:* Well drained
- *Runoff class:* Medium
- *Capacity of the most limiting layer to transmit water (Ksat):* High (1.98 to 5.95 in/hr)
- *Depth to water table:* More than 80 inches
- *Frequency of flooding:* None
- *Frequency of ponding:* None
- *Available water storage in profile:* Low (about 4.8 inches)

Interpretive groups

- *Land capability classification (irrigated):* None specified
- *Land capability classification (nonirrigated):* 6s
- *Hydrologic Soil Group:* A
- *Hydric soil rating:* No

Description of Tusquitee, Very Bouldery

Setting

- *Landform:* Fans, drainageways, coves
- *Down-slope shape:* Concave
- *Across-slope shape:* Concave
- *Parent material:* Colluvium derived from igneous and metamorphic rock

Typical profile

- *A - 0 to 8 inches:* gravelly loam
- *Bw - 8 to 48 inches:* loam
- *C - 48 to 80 inches:* gravelly fine sandy loam

Properties and qualities

- *Slope:* 15 to 30 percent
- *Percent of area covered with surface fragments:* 1.5 percent
- *Depth to restrictive feature:* More than 80 inches
- *Natural drainage class:* Well drained
- *Runoff class:* Medium
- *Capacity of the most limiting layer to transmit water (Ksat):* High (1.98 to 5.95 in/hr)
- *Depth to water table:* More than 80 inches
- *Frequency of flooding:* None
- *Frequency of ponding:* None
- *Available water storage in profile:* Moderate (about 8.9 inches)

Interpretive groups

- *Land capability classification (irrigated):* None specified
- *Land capability classification (nonirrigated):* 4s
- *Hydrologic Soil Group:* A
- *Hydric soil rating:* No

ArF—Ashe-Cleveland-Rock outcrop complex, 50 to 95 percent slopes, very bouldery

Map Unit Setting

- *National map unit symbol:* 1t349
- *Elevation:* 1,700 to 4,500 feet
- *Mean annual precipitation:* 40 to 54 inches
- *Mean annual air temperature:* 46 to 57 degrees F
- *Frost-free period:* 124 to 176 days
- *Farmland classification:* Not prime farmland

Map Unit Composition

- *Ashe, very bouldery, and similar soils:* 40 percent
- *Cleveland, very bouldery, and similar soils:* 30 percent
- *Rock outcrop:* 20 percent
- *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Ashe, Very Bouldery

Setting

- *Landform:* Mountain slopes
- *Down-slope shape:* Convex
- *Across-slope shape:* Convex
- *Parent material:* Affected by soil creep in the upper solum over residuum weathered from biotite granitic gneiss and granodioritic gneiss

Typical profile

- *A - 0 to 5 inches:* sandy loam
- *Bw - 5 to 25 inches:* sandy loam
- *C - 25 to 30 inches:* gravelly sandy loam
- *R - 30 to 80 inches:* unweathered bedrock

Properties and qualities

- *Slope:* 50 to 95 percent
- *Percent of area covered with surface fragments:* 1.5 percent
- *Depth to restrictive feature:* 20 to 40 inches to lithic bedrock
- *Natural drainage class:* Somewhat excessively drained
- *Runoff class:* Very high
- *Capacity of the most limiting layer to transmit water (Ksat):* Very low to low (0.00 to 0.01 in/hr)
- *Depth to water table:* More than 80 inches

- *Frequency of flooding:* None
- *Frequency of ponding:* None
- *Available water storage in profile:* Low (about 3.7 inches)

Interpretive groups

- *Land capability classification (irrigated):* None specified
- *Land capability classification (nonirrigated):* 7s
- *Hydrologic Soil Group:* B
- *Hydric soil rating:* No

Description of Cleveland, Very Bouldery

Setting

- *Landform:* Mountain slopes
- *Down-slope shape:* Convex
- *Across-slope shape:* Convex
- *Parent material:* Affected by soil creep in the upper solum over residuum weathered from biotite granitic gneiss and granodioritic gneiss

Typical profile

- *A - 0 to 5 inches:* sandy loam
- *Bw - 5 to 14 inches:* sandy loam
- *R - 14 to 80 inches:* unweathered bedrock

Properties and qualities

- *Slope:* 50 to 95 percent
- *Percent of area covered with surface fragments:* 1.5 percent
- *Depth to restrictive feature:* 10 to 20 inches to lithic bedrock
- *Natural drainage class:* Somewhat excessively drained
- *Runoff class:* Very high
- *Capacity of the most limiting layer to transmit water (Ksat):* Very low to low (0.00 to 0.01 in/hr)
- *Depth to water table:* More than 80 inches
- *Frequency of flooding:* None
- *Frequency of ponding:* None
- *Available water storage in profile:* Very low (about 1.4 inches)

Interpretive groups

- *Land capability classification (irrigated):* None specified
- *Land capability classification (nonirrigated):* 7s
- *Hydrologic Soil Group:* D
- *Hydric soil rating:* No

Description of Rock Outcrop

Setting

- *Landform:* Mountain slopes, ridges
- *Parent material:* Biotite granitic gneiss and granodioritic gneiss

Typical profile

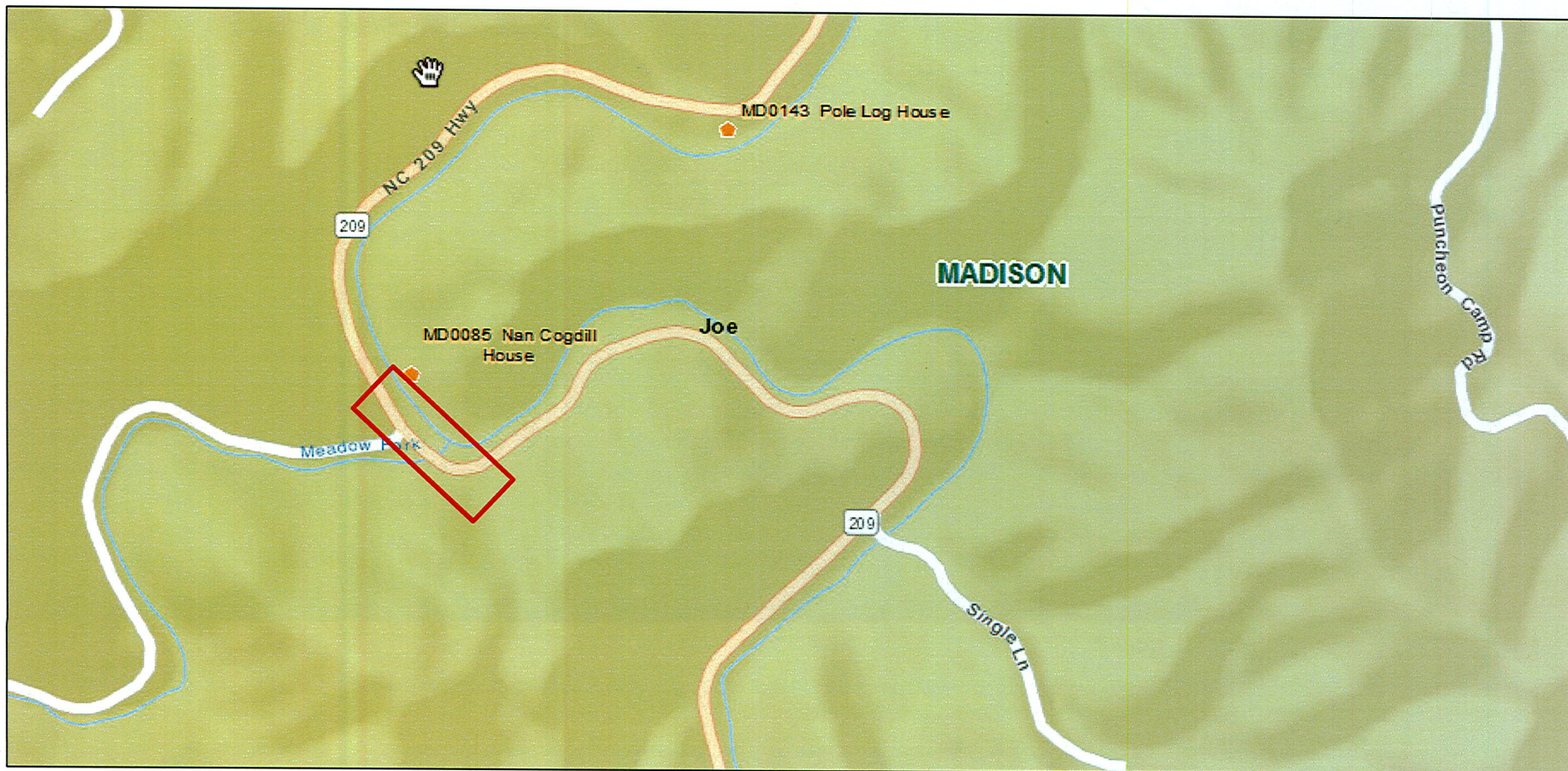
- *R - 0 to 80 inches:* bedrock

Properties and qualities

- *Depth to restrictive feature:* 0 inches to lithic bedrock
- *Runoff class:* Very high
- *Capacity of the most limiting layer to transmit water (Ksat):* Very low to low (0.00 to 0.01 in/hr)
- *Available water storage in profile:* Very low (about 0.0 inches)

Interpretive groups

- *Land capability classification (irrigated):* None specified
- *Land capability classification (nonirrigated):* 8s
- *Hydric soil rating:* No



NCSHPO website map illustrating the location of the project study area. Note the lack of historic structures in the APE (not to scale).

17-12-0046



HISTORIC ARCHITECTURE 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-0032	County:	Madison
WBS No.:	67032.1.1	Document Type:	MCC
Fed. Aid No.:		Funding:	<input checked="" type="checkbox"/> State <input type="checkbox"/> Federal
Federal Permit(s):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Permit Type(s):	USACE
<u>Project Description:</u> Replace Bridge No 84 on NC 209 over Meadow Fork.			

SUMMARY OF HISTORIC ARCHITECTURE 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: July 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 22, 2018. A site visit conducted on April 10, 2018 and three properties over 50 years old in the study area required further evaluation. In July of 2018 architectural historians documented and evaluated the National Register eligibility of these three properties. None of these were recommended eligible. In a letter dated September 25, 2018 NCHPO concurred with these findings. No historic properties will be affected by this project.

SUPPORT DOCUMENTATION

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

FINDING BY NCDOT ARCHITECTURAL HISTORIAN

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

Shelby Reap

October 2, 2018

NCDOT Architectural Historian

Date



North Carolina Department of Natural and Cultural Resources
State Historic Preservation Office

Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary Susi H. Hamilton

Office of Archives and History
Deputy Secretary Kevin Cherry

September 25, 2018

MEMORANDUM

TO: Shelby Reap
Office of Human Environment
NCDOT Division of Highways

FROM: Renee Gledhill-Earley *Renee Gledhill-Earley*
Environmental Review Coordinator

SUBJECT: Historic Structures Survey Report, Replace Bridge 84 on NC 209 over Meadow Fork, BR-0032, PA 17-12-0046, Madison County, ER 18-2811

Thank you for your September 11, 2018, letter transmitting the above-referenced report. We have reviewed the report and concur that the following properties are not eligible for listing in the National Register of Historic Places under any criteria for the reasons stated in the report.

Charlotte and Homer Caldwell Farm (MD0085)
Jack Caldwell Store (MD0301)
Jack Caldwell House (MD0300)

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

cc: Mary Pope Furr, NCDOT, mfurr@ncdot.gov