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:*

Moore

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-0035

WBS #*

67035.1.1

(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: 14 - Linear transportation

NWP Numbers (for multiple NWPS):

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

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

check all that apply

- [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

BR-0035 - RW - CF 04.pdf 64.82KB

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

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:*

jldilday@ncdot.gov

1c. Primary Contact Phone:*

(xxx)xxx-xxxx

(919)707-6111

1d. Who is applying for the permit?*

[x] 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:*

NCDOT

2b. Deed book and page no.:

2c. Responsible party:

(for Corporations)

2d. Address*

Street Address

1000 Birch Ridge Drive

Address Line 2

City

Raleigh

State / Province / Region

NC

Postal / Zip Code

27610

Country

USA

2e. Telephone Number:*

(xxx)xxx-xxxx

(919)707-6111

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:*

Replace Bridge No. 24 on NC 22 over Nicks Creek (BR-0035 Central)

1b. Subdivision name:

(if appropriate)

1c. Nearest municipality / town:*

Southern Pines

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: *

35.253501

ex: 34.208504

Longitude: *

-79.412772

-77.796371

3. Surface Waters

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

Nicks Creek

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

WS-III

Surface Water Lookup

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

Cape Fear

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

030300040301

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: *

Land use in the project vicinity consists primarily of forested communities, residential development and a community park with greenway.

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:

0.25

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

(intermittent and perennial)

300

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

The purpose of this project is to replace a structurally deficient bridge.

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

This project involves replacing the existing single span, 19-foot bridge with a three barrel culvert downstream of the existing structure. Traffic will be maintained on the existing bridge during construction. Standard road building equipment, such as trucks, dozers and cranes will be used.

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

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

BR-0035_Hyd_prm_wet_Package03312020.pdf 10.52MB

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:

Field visit with USACE conducted on 10/15/2019. Updated JD request package attached.

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): Jason Dilday

Agency/Consultant Company: NCDOT

Other:

5d1. Jurisdictional determination upload

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

BR0035_JDpackage.pdf 16.71MB

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

2. Wetland Impacts

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

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

2a. Site # * (?)	2a1 Reason * (?)	2b. Impact type * (?)	2c. Type of W. *	2d. W. name *	2e. Forested *	2f. Type of Jurisdicition * (?)	2g. Impact area *
Site 1	Fill	P	Headwater Forest	WA	No	Corps	0.050 (acres)
Site 2	Fill	P	Headwater Forest	WB/WE	Yes	Corps	0.040 (acres)
Site 2	Mech. Clearing	P	Headwater Forest	WE	Yes	Corps	0.010 (acres)

2g. Total Temporary Wetland Impact

0.000

2g. Total Permanent Wetland Impact

0.100

2g. Total Wetland Impact

0.100

2h. Comments:

Relocation of utilities will be directionally bored under wetlands resulting in no impact.
Wetland WE was considered a total take, which would incur an additional 0.01 acre of impact.

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	Site 3-Culvert	Permanent	Culvert	Nicks Creek	Perennial	Both	20 Average (feet)	61 (linear feet)
S2	Site 3-Bank Stabilization	Permanent	Bank Stabilization	Nicks Creek	Perennial	Both	20 Average (feet)	90 (linear feet)
S3	Site 3-Bank Stabilization	Temporary	Bank Stabilization	Nicks Creek	Perennial	Both	20 Average (feet)	45 (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:

151

3i. Total temporary stream impacts:

45

3i. Total stream and ditch impacts:

196

3j. Comments:

Relocation of the water line on the project will be done by open cut at Nicks Creek, however the work will be done within the temporary impact area of the culvert installation resulting in no additional impact.

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 culvert will be designed to not have direct discharge into Nicks Creek. Sheetflow to be promoted to flow through grass shoulders. See stormwater management plan for additional minimization measures. 3:1 fill slopes will be used in wetlands.

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

Traffic will be maintained on the existing bridge during construction of the replacement structure. Best Management Practices for Construction and Maintenance Activities will be adhered to during construction.

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

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

(•) Yes ( ) No

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

[ ] DWR [x] Corps

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

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

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

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

(•) Yes ( ) No

4b. Stream mitigation requested:

(linear feet)

0

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

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

4d. Buffer mitigation requested (DWR only):

(square feet)

4e. Riparian wetland mitigation requested:

(acres)

0.11

4f. Non-riparian wetland mitigation requested:

(acres)

4g. Coastal (tidal) wetland mitigation requested:

(acres)

4h. Comments

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:

Nicks Creek is not within a protected buffer basin for NCDWR.

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: *

The State Minimum Criteria Determination Checklist for this project was not required to be submitted to the State Clearing House.

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.

Raleigh

5d. Is another Federal agency involved? *

○ Yes ◉ No ○ Unknown

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

◉ Yes ○ No

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

N.C. Natural Heritage Program database; USFWS-Raleigh Field Office website; biological surveys for protected species listed for Moore County, which include Cape Fear shiner, red-cockaded woodpecker, American chaffseed and Michaux's sumac. Biological conclusion for Cape Fear shiner and American chaffseed were "No Effect", due to no suitable habitat. Habitat for red-cockaded woodpecker and Michaux's sumac is available in the study area, however surveys for the species, conducted on August 28, 2018 revealed no occurrences within the vicinity of the study area. The biological conclusion for these species is "No Effect". The Northern long-eared bat will addressed through the PBO.

Consultation Documentation Upload

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

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 floodplain 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: *

Mack Christopher Rivenbark, III

Signature

Mack C. Rivenbark, III

Date

4/3/2020

ROY COOPER
Governor
MICHAEL S. REGAN
Secretary
TIM BAUMGARTNER
Director

NORTH CAROLINA
Environmental Quality

March 17, 2020

Mr. Philip S. Harris, III, P.E.
Environmental Analysis Unit
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Harris:

Subject: Mitigation Acceptance Letter:

BR-0035, Replace Bridge 24 on NC 22 over Nicks Creek, Moore County

The purpose of this letter is to notify you that the Division of Mitigation Services (DMS) will provide the compensatory wetland mitigation for the subject project. Based on the information supplied by you on March 17, 2020, the impacts are located in CU 03030004 of the Cape Fear River basin in the Southern Piedmont (SP) Eco-Region, and are as follows:

Cape Fear 03030004 SP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	0	0.11	0	0	0	0

*Some of the stream and/or wetland impacts may be proposed to be mitigated at a 1:1 mitigation ratio. See permit application for details.

The impacts and associated mitigation needs were under projected by the NCDOT in the 2020 impact data. DMS will commit to implement sufficient compensatory wetland mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies using the delivery timeline listed in Section F.3.c.iii of the In-Lieu Fee Instrument dated July 28, 2010. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from DMS.

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

Sincerely,

James B. Stanfill
DMS Asset Management Supervisor

cc: Mr. Monte Matthews, USACE – Raleigh Regulatory Field Office
Ms. Amy Chapman, NCDWR
File: BR-0035

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD:

B. NAME AND ADDRESS OF PERSON REQUESTING PJD: NCDOT; ATTN: Jason Dilday, 1598 MSC, Raleigh, NC 27699

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: NC County/parish/borough: Moore City: Whispering Pine

Center coordinates of site (lat/long in degree decimal format):

Lat.: 35.252292 Long.: -79.411868

Universal Transverse Mercator: 17

Name of nearest waterbody: Nicks Creek

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:

☐ Field Determination. Date(s):

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
Nicks Creek	35.253347	-79.412724	261 linear feet	non-wetland	Section 404
SA	35.252176	-79.412252	45 linear feet	non-wetland	Section 404
WA	35.252389	-79.411781	0.05 acre	wetland	Section 404
WB	35.253303	-79.412417	0.01 acre	wetland	Section 404
WC	35.254670	-79.412786	0.03 acre	wetland	Section 404
WD WE	35.253917 35.253126	-79.41263 -79.412344	0.02 acre 0.05 acre	wetland wetland	Section 404 Section 404

1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.

2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there *"may be"* waters of the U.S. and/or that there *"may be"* navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- [x] Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
  Map: _____.
- [x] Data sheets prepared/submitted by or on behalf of the PJD requestor.
  - [ ] Office concurs with data sheets/delineation report.
  - [ ] Office does not concur with data sheets/delineation report. Rationale: _____.
- [ ] Data sheets prepared by the Corps: _____.
- [ ] Corps navigable waters' study: _____.
- [ ] U.S. Geological Survey Hydrologic Atlas: _____.
  - [ ] USGS NHD data.
  - [ ] USGS 8 and 12 digit HUC maps.
- [x] U.S. Geological Survey map(s). Cite scale & quad name: 1:24k (Carthage Quad).
- [ ] Natural Resources Conservation Service Soil Survey. Citation: _____.
- [ ] National wetlands inventory map(s). Cite name: _____.
- [ ] State/local wetland inventory map(s): _____.
- [ ] FEMA/FIRM maps: _____.
- [ ] 100-year Floodplain Elevation is: _____.(National Geodetic Vertical Datum of 1929)
- [x] Photographs: [x] Aerial (Name & Date): NC OneMap.
  or [ ] Other (Name & Date): _____.
- [ ] Previous determination(s). File no. and date of response letter: _____.
- [ ] Other information (please specify): _____.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

_____	_____
Signature and date of Regulatory staff member completing PJD	Signature and date of person requesting PJD (REQUIRED, unless obtaining the signature is impracticable)[1]

[1] Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

BR-0035

Moore County

Bridge 24 on NC 22 over Nicks Creek

Vicinity Map

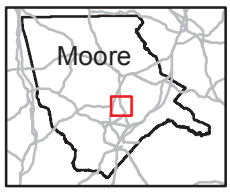
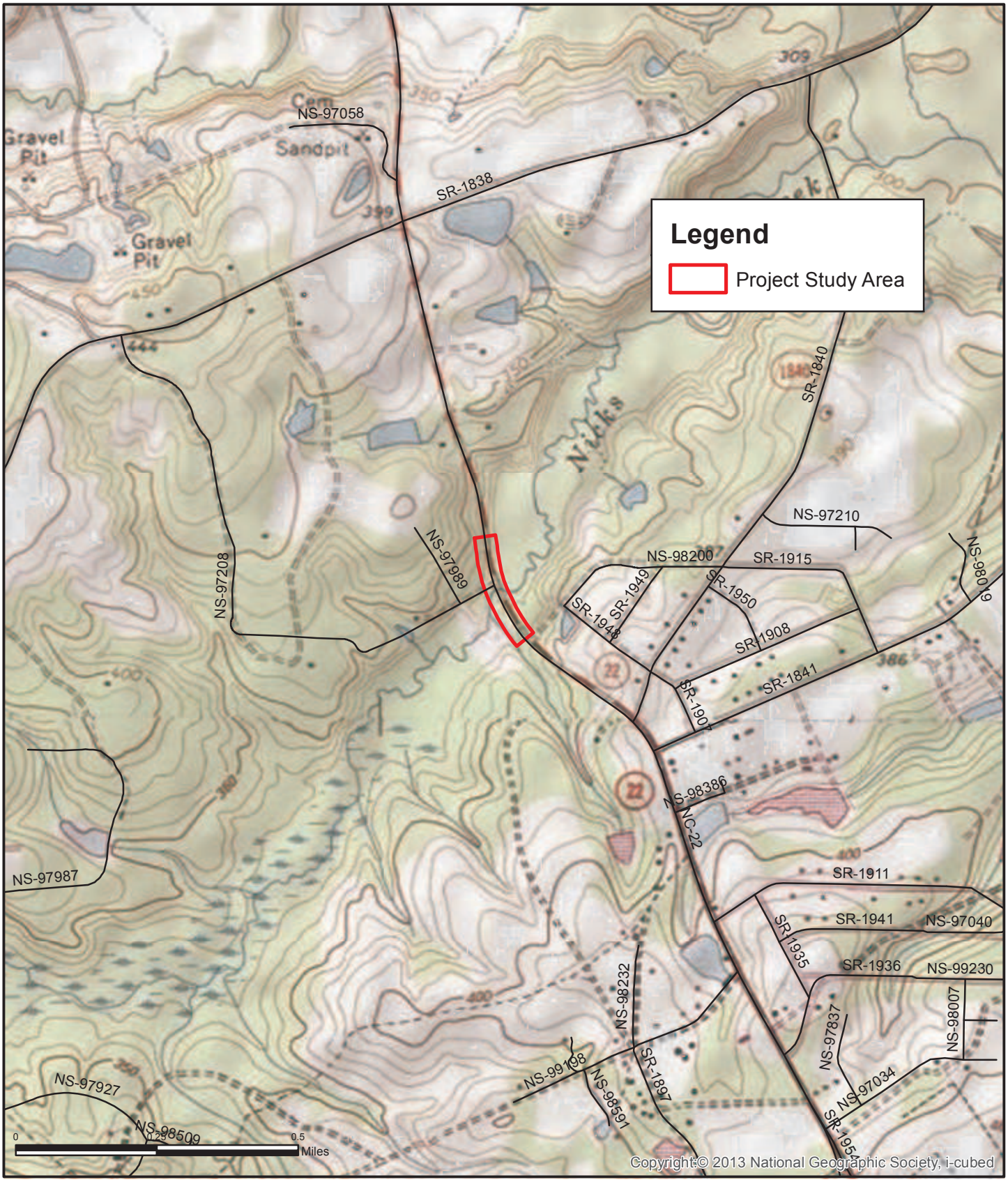


FIGURE 1

Prepared by
NCDOT
Environmental Analysis Unit



BR-0035

Moore County

Bridge 24 on NC 22 over Nicks Creek

Topographic Map

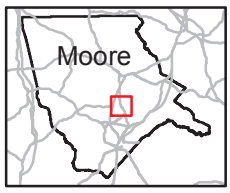
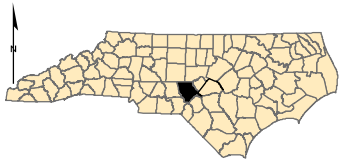


FIGURE 2

Prepared by
NCDOT
Environmental Analysis Unit



BR-0035

Moore County

Bridge 24 on NC 22 over Nicks Creek
Jurisdictional Features and
Terrestrial Communities Map

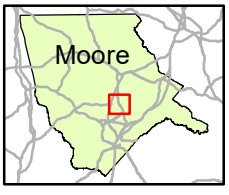


FIGURE 3

Prepared by
NCDOT
Environmental Analysis Unit

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: BR-0035 City/County: Moore Sampling Date: 1/11/18

Applicant/Owner: NCDOT State: NC Sampling Point: WA-wet

Investigator(s): J. Dilday, J. Mason, J. Hemphill Section, Township, Range: _____

Landform (hillslope, terrace, etc.): depression (sewer line) Local relief (concave, convex, none): concave Slope (%): 1%

Subregion (LRR or MLRA): T Lat: 35.252292 Long: -79.411868 Datum: _____

Soil Map Unit Name: Tucus and Nanford soils 15-25% slopes NWI classification: PFO1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 2"
Water Table Present?	Yes _____	No ✓	Depth (inches): 0"
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: WA wet

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	30	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
= Total Cover			

50% of total cover: _____ 20% of total cover: _____

Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
= Total Cover			

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 30')			
1. Juncus effusus	30%	Y	OBL
2. Scirpus cyperinus	30%	Y	OBL
3. Arundinaria gigantea	15%	N	FACW
4. Saccharum giganteum	10%	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
85 = Total Cover			

50% of total cover: 42.5% 20% of total cover: 17%

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
= Total Cover			

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: WA-wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 5/1	90	10YR 6/8	10	C	PL	clayey sand	
5-10	Gley1 5/N	95	10YR 5/6	5	C	PL	sandy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: BR-0035 City/County: Moore Sampling Date: 1/11/18

Applicant/Owner: NCDOT State: NC Sampling Point: WA-UP

Investigator(s): J. Ditchy, J. Mason, J. Hemphill Section, Township, Range: _____

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 2%

Subregion (LRR or MLRA): T Lat: 35.252404 Long: -79.411737 Datum: _____

Soil Map Unit Name: Tarrus and Nanford soils 15-25% slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ____	No ✓	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✓	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: WA-4P

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 30')			
1. A. Poa sp. virginicus	50	Yes	NA
2. Andropogon virginicus	30	Yes	FAC
3. Juncus effusus	5	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: WA-4P

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-10+	10YR 4/2	100					loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: BR-0035 City/County: Moore Sampling Date: 1/11/18

Applicant/Owner: NCDOT State: NC Sampling Point: WB/WC wet WD/WE

Investigator(s): J. Dilday, J. Mason, J. Hemphill Section, Township, Range:

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): T Lat: 35.253272 Long: -79.412569 Datum:

Soil Map Unit Name: Bibb loam 0-2% slopes NWI classification: PFO1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ____	No ✓	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 4"

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WD/WE

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: WB/WC wet

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Liriodendron tulipifera	7	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	7 = Total Cover		

50% of total cover: 3.5 20% of total cover: 1.4

Sapling/Shrub Stratum (Plot size: 30')			
1. Persia borbonia	11	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	11 = Total Cover		

50% of total cover: 5.5 20% of total cover: 2.2

Herb Stratum (Plot size: 30')			
1. Arundinaria gigantea	20	Y	FACW
2. Ludwigia alternifolia	20	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	40 = Total Cover		

50% of total cover: 20 20% of total cover: 8

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (If observed, list morphological adaptations below).

WD/WE

SOIL

Sampling Point: LOB/LOC wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/3	100					Sandy loam	
2-10	10YR 4/1	85	10YR 6/8	15	C	PL	sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: BR-0035 City/County: Moore Sampling Date: 1/11/18

Applicant/Owner: NCDOT State: NC Sampling Point: WB/WC-47 WD/WE

Investigator(s): J. Dildy, J. Mason, J. Hemphill Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope/utility cut Local relief (concave, convex, none): convex Slope (%): 2

Subregion (LRR or MLRA): T Lat: 35.254109 Long: -79.412753 Datum:

Soil Map Unit Name: Tarrus and Nanford soils 15-25% slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____ No ✓	
Wetland Hydrology Present?	Yes ____ No ✓	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ____	No ✓	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✓	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WD/WE

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: WB/WC up

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Liriodendron tulipifera	15	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

50% of total cover: 7.5 20% of total cover: 3

Sapling/Shrub Stratum (Plot size: 30)			
1. Ilex opaca	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: _____)			
1. Andropogon virginicus	40	Y	FAC
2. Juncus effusus	10	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50 = Total Cover		

50% of total cover: 25 20% of total cover: 10

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (If observed, list morphological adaptations below).

WD/WE

SOIL

Sampling Point: UPB/UPC UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10+	10YR 4/2	100%					sandy/loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
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- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
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- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

NC WAM Wetland Rating Sheet
Accompanies User Manual Version 4.1
Rating Calculator Version 4.1

Wetland Site Name	WA	Date	1/11/18
Wetland Type	Basin Wetland	Assessor Name/Organization	J Dilday NCDOT

Notes on Field Assessment Form (Y/N)	NO
Presence of regulatory considerations (Y/N)	NO
Wetland is intensively managed (Y/N)	YES
Assessment area is located within 50 feet of a natural tributary or other open water (Y/N)	NO
Assessment area is substantially altered by beaver (Y/N)	NO
Assessment area experiences overbank flooding during normal rainfall conditions (Y/N)	NO
Assessment area is on a coastal island (Y/N)	NO

Sub-function Rating Summary

Function	Sub-function	Metrics	Rating
Hydrology	Surface Storage and Retention	Condition	NA
	Sub-Surface Storage and Retention	Condition	NA
Water Quality	Pathogen Change	Condition	NA
		Condition/Opportunity	NA
		Opportunity Presence? (Y/N)	NA
	Particulate Change	Condition	NA
		Condition/Opportunity	NA
		Opportunity Presence? (Y/N)	NA
	Soluble Change	Condition	NA
		Condition/Opportunity	NA
		Opportunity Presence? (Y/N)	NA
	Physical Change	Condition	NA
		Condition/Opportunity	NA
		Opportunity Presence? (Y/N)	NA
	Pollution Change	Condition	**LOW**
		Condition/Opportunity	**LOW**
		Opportunity Presence? (Y/N)	**NO**
Habitat	Physical Structure	Condition	**LOW**
	Landscape Patch Structure	Condition	**LOW**
	Vegetation Composition	Condition	**LOW**

Function Rating Summary

Function	Metrics/Notes	Rating
Hydrology	Condition	**MEDIUM**
Water Quality	Condition	**LOW**
	Condition/Opportunity	**LOW**
	Opportunity Presence? (Y/N)	**NO**
Habitat	Conditon	**LOW**

Overall Wetland Rating **MEDIUM**

NC WAM Wetland Rating Sheet
Accompanies User Manual Version 4.1
Rating Calculator Version 4.1

Wetland Site Name	WB/WC/WD/WE	Date	1/11/18
Wetland Type	Bottomland Hardwood Forest	Assessor Name/Organization	J Dilday NCDOT

Notes on Field Assessment Form (Y/N)	NO
Presence of regulatory considerations (Y/N)	NO
Wetland is intensively managed (Y/N)	YES
Assessment area is located within 50 feet of a natural tributary or other open water (Y/N)	NO
Assessment area is substantially altered by beaver (Y/N)	NO
Assessment area experiences overbank flooding during normal rainfall conditions (Y/N)	NO
Assessment area is on a coastal island (Y/N)	NO

Sub-function Rating Summary

Function	Sub-function	Metrics	Rating
Hydrology	Surface Storage and Retention	Condition	**LOW**
	Sub-Surface Storage and Retention	Condition	**MEDIUM**
Water Quality	Pathogen Change	Condition	**LOW**
		Condition/Opportunity	**LOW**
		Opportunity Presence? (Y/N)	**NO**
	Particulate Change	Condition	**LOW**
		Condition/Opportunity	**LOW**
		Opportunity Presence? (Y/N)	**NO**
	Soluble Change	Condition	**LOW**
		Condition/Opportunity	**LOW**
		Opportunity Presence? (Y/N)	**NO**
	Physical Change	Condition	**LOW**
		Condition/Opportunity	**LOW**
		Opportunity Presence? (Y/N)	**NO**
	Pollution Change	Condition	NA
		Condition/Opportunity	NA
		Opportunity Presence? (Y/N)	NA
Habitat	Physical Structure	Condition	**LOW**
	Landscape Patch Structure	Condition	**LOW**
	Vegetation Composition	Condition	**LOW**

Function Rating Summary

Function	Metrics/Notes	Rating
Hydrology	Condition	**LOW**
Water Quality	Condition	**LOW**
	Condition/Opportunity	**LOW**
	Opportunity Presence? (Y/N)	**NO**
Habitat	Conditon	**LOW**

Overall Wetland Rating **LOW**

Submitted 4/3/2020

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 2.08; Released April 2018)

WBS Element: 67035.2.1 **TIP No.:** BR-0035 **County(ies):** Moore

General Project Information

WBS Element:	67035.2.1	**TIP Number:**	BR-0035	**Project Type:** Bridge Replacement	**Date:** 9/20/2019
NCDOT Contact:	W.G. Cail			**Contractor / Designer:**	L.D. Clawson
Address:	1000 Birch Ridge Drive Raleigh, NC 27610			**Address:**	1000 Birch Ridge Drive Raleigh
Phone:	919-707-6711			**Phone:**	919-707-6712
Email:	gcail@ncdot.gov			**Email:**	ldclawson@ncdot.gov
City/Town:	Carthage			**County(ies):**	Moore
River Basin(s):	Cape Fear			**CAMA County?**	No
Wetlands within Project Limits?	Yes				

Project Description

Project Length (lin. miles or feet):	0.319 mi.	**Surrounding Land Use:**	Rural

	Proposed Project	**Existing Site**
Project Built-Upon Area (ac.)	0.85 ac.	0.84 ac.
Typical Cross Section Description:	2 12' lanes	2 11' lanes
Annual Avg Daily Traffic (veh/hr/day):	Design/Future: 8000 Year: 2040	Existing: 6500 Year: 2018

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

The project consists of replacing Bridge # 24 on NC 22 over Nick's Creek. The approach work will consist of raising and relining the existing roadway and providing grass shoulders and guardrail. Bridge # 24 existing 1 span structure (20' total length) will be replaced with 3 @ 12' x 9' RCBC.
Best Management Practices:
-Promotion of sheet flow and infiltration with grass shoulders.
-Drainage systems outlet to rip rap pad.

Waterbody Information

Surface Water Body (1):	Nicks Creek	**NCDWR Stream Index No.:**	18-23-3-(3)
NCDWR Surface Water Classification for Water Body	**Primary Classification:**	Water Supply III (WS-III)	
	Supplemental Classification:	High Quality Waters (HQW)	
Other Stream Classification:			
Impairments:	None		
Aquatic T&E Species?		Comments:	
NRTR Stream ID:		**Buffer Rules in Effect:**	N/A

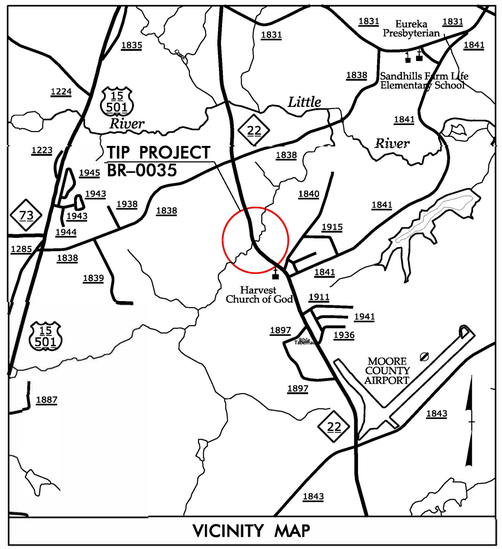
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

09/08/99

TIP PROJECT: BR-0035

CONTRACT:

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



VICINITY MAP

R/W PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MOORE COUNTY

LOCATION: BRIDGE NO. 24 ON NC 22 OVER NICKS CREEK

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND CULVERT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BR-0035	1	

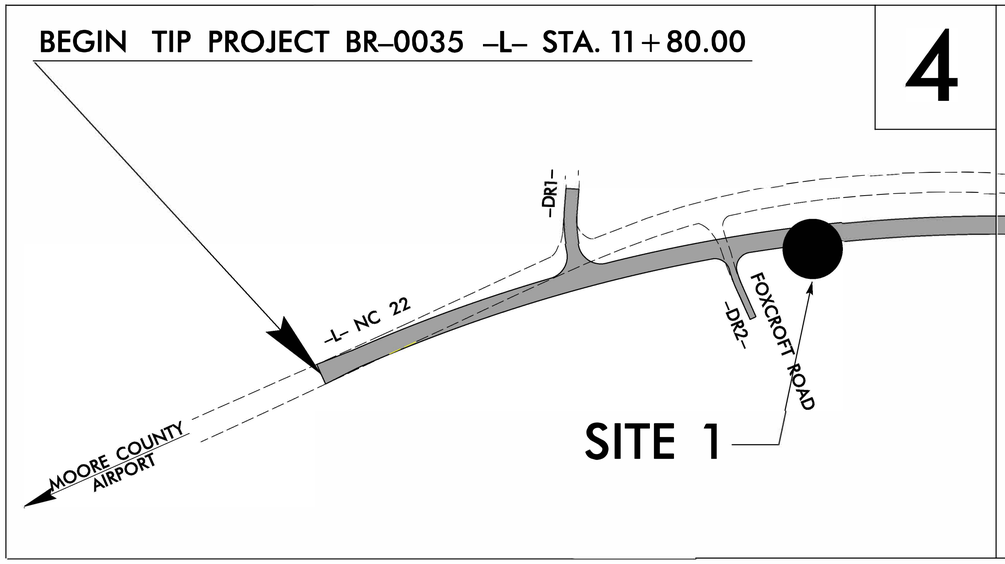
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
67035.1.1		P.E.
67035.2.1		ROW /UTIL
67035.3.1		CONST.

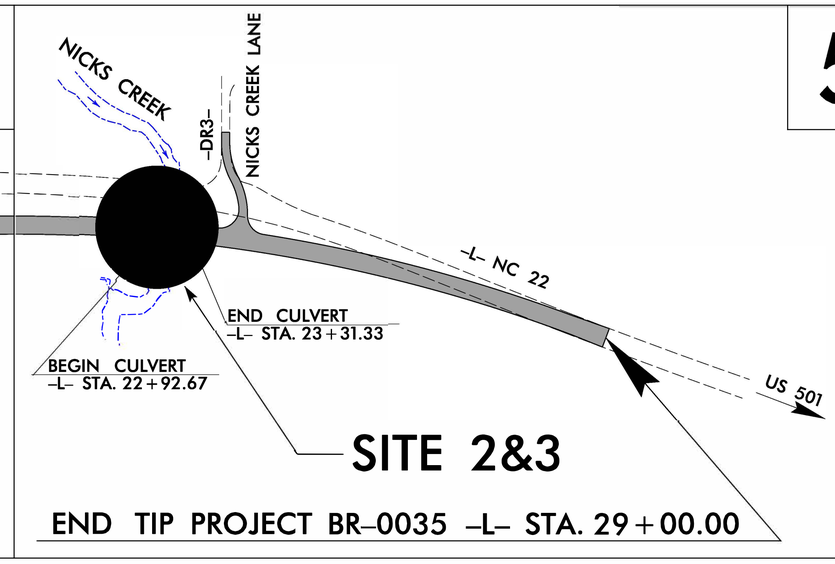
PERMIT DRAWING
SHEET 1 OF 11

NAD 832011

WETLAND AND SURFACE WATER IMPACTS PERMIT

BEGIN TIP PROJECT BR-0035 -L- STA. 11+80.00

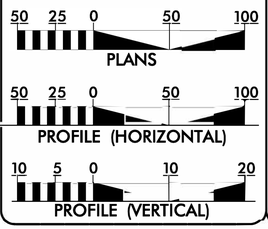




END TIP PROJECT BR-0035 -L- STA. 29+00.00

THIS PROJECT HAS NO CONTROLED-ACCESS.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

GRAPHIC SCALES



DESIGN DATA

ADT 2020 = 6650
ADT 2040 = 8000
K = 11 %
D = 60 %
T = 4 % *
V = 60 MPH
* (TTST=1% + DUAL=3%)
FUNC CLASS = MINOR ARTERIAL
STATEWIDE TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT BR-0035	= 0.319 MI
LENGTH OF STRUCTURE TIP PROJECT BR-0035	= 0.007 MI
TOTAL LENGTH OF TIP PROJECT BR-0035	= 0.326 MI

Prepared In the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: AUGUST 30, 2019

LETTING DATE: JULY 21, 2020

TATIA L. WHITE, PE, PLS

PIOTR J. STOJDA
PROJECT TEAM LEAD

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

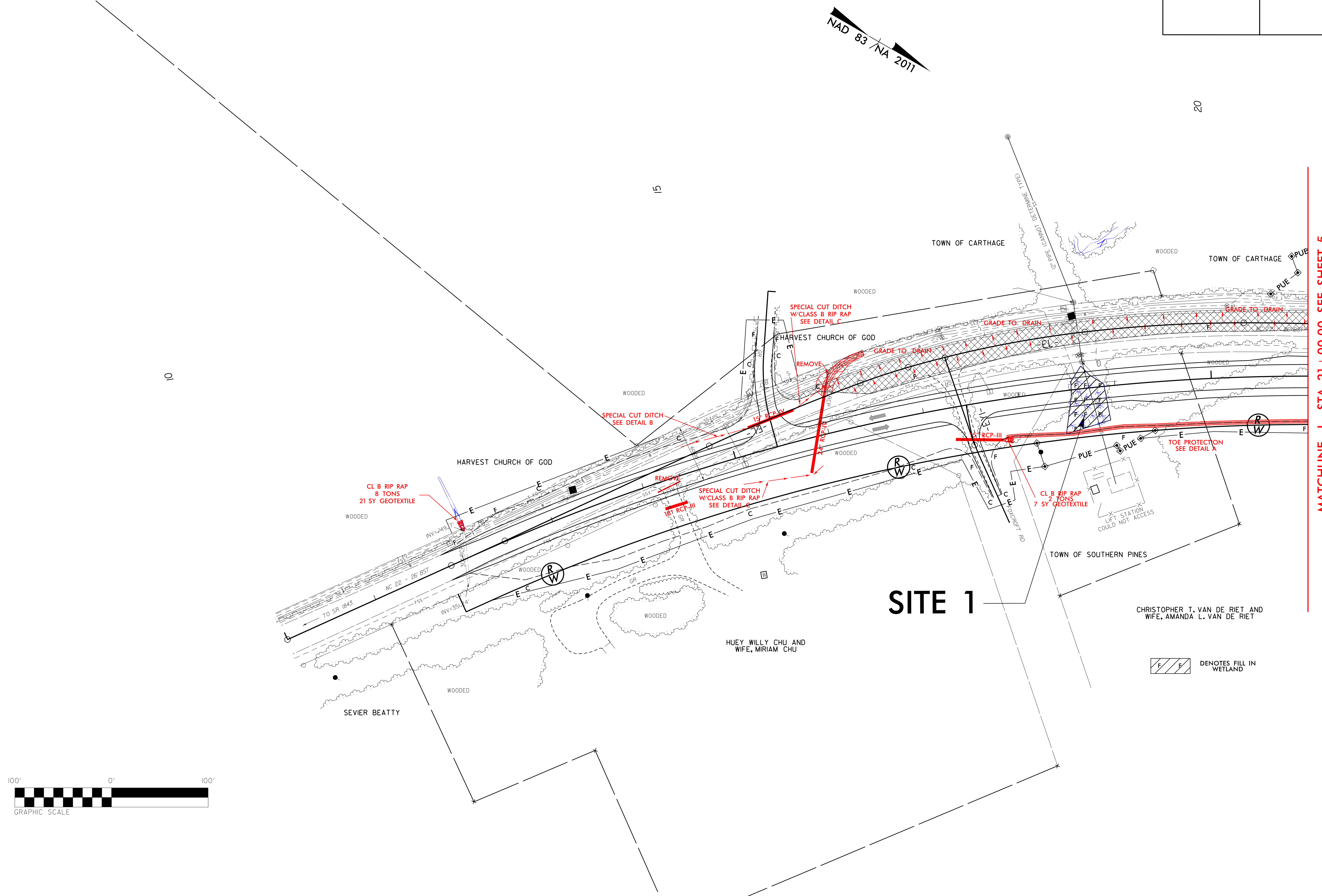
STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION ·

Submitted 4/3/2020

PROJECT REFERENCE NO.	SHEET NO.
BR-0035	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 2 OF 11

REVISIONS



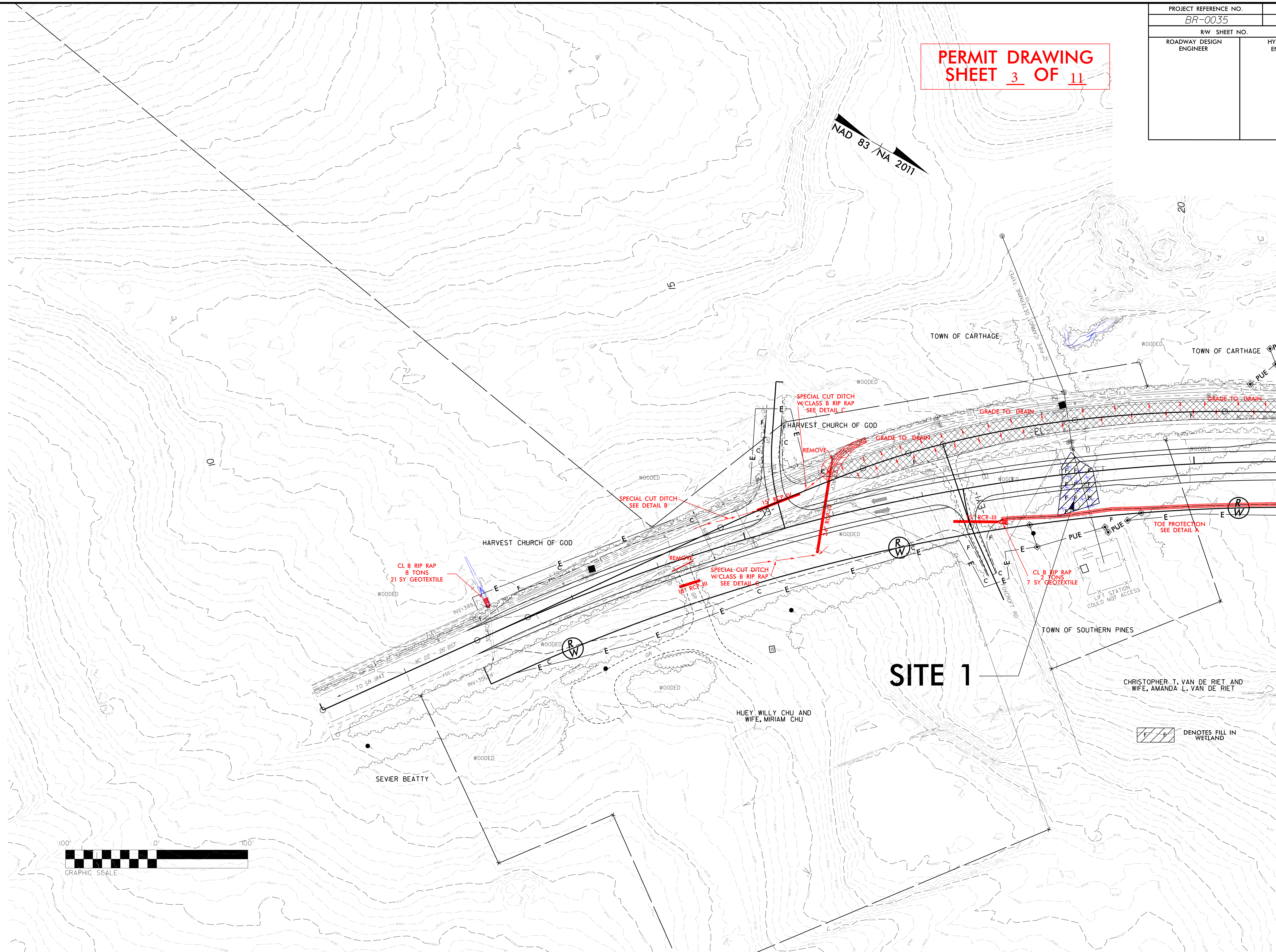
NAD 83 / NA 2011
TOWN OF CARTHAGE
WOODED
TOWN OF CARTHAGE
PUE
SPECIAL CUT DITCH W/CLASS B RIP RAP SEE DETAIL C
GRADE TO DRAIN
HARVEST CHURCH OF GOD
REMOVE
SPECIAL CUT DITCH SEE DETAIL B
HARVEST CHURCH OF GOD
CL B RIP RAP 8 TONS 21 SY GEOTEXTILE
TOE PROTECTION SEE DETAIL A
CL B RIP RAP 2 TONS 7 SY GEOTEXTILE
SPECIAL CUT DITCH W/CLASS B RIP RAP SEE DETAIL C
LIFT STATION COULD NOT ACCESS
TOWN OF SOUTHERN PINES
SITE 1
CHRISTOPHER T. VAN DE RIET AND WIFE, AMANDA L. VAN DE RIET
HUEY WILLY CHU AND WIFE, MIRIAM CHU
SEVIER BEATTY
DENOTES FILL IN WETLAND
MATCHLINE -L- STA. 21+00.00 SEE SHEET 5
100' 0' 100'
GRAPHIC SCALE

Submitted 4/3/2020

PROJECT REFERENCE NO.	SHEET NO.
BR-0035	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 3 OF 11

REVISIONS



NAD 83 / NA 2011
TOWN OF CARTHAGE
HARVEST CHURCH OF GOD
SPECIAL CUT DITCH W/CLASS B RIP RAP SEE DETAIL C
GRADE TO DRAIN
REMOVE
SPECIAL CUT DITCH SEE DETAIL B
CL B RIP RAP 8 TONS 21 SY GEOTEXTILE
SPECIAL CUT DITCH W/CLASS B RIP RAP SEE DETAIL C
CL B RIP RAP 2 TONS 7 SY GEOTEXTILE
TOE PROTECTION SEE DETAIL A
TOWN OF SOUTHERN PINES
SITE 1
CHRISTOPHER T. VAN DE RIET AND WIFE, AMANDA L. VAN DE RIET
HUEY WILLY CHU AND WIFE, MIRIAM CHU
SEVIER BEATTY
WOODED
DENOTES FILL IN WETLAND
GRAPHIC SCALE
100' 0' 100'

MATCHLINE -L- STA. 21+00.00 SEE SHEET 5

Submitted 4/3/2020

PROJECT REFERENCE NO.	SHEET NO.
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PERMIT DRAWING
SHEET 4 OF 11

REVISIONS 8/17/99

15

NAD 83 / NA 2011

TOWN OF CARTHAGE

WOODED

12" PIPE (CANNOT DETERMINE TYPE)

SPECIAL CUT DITCH
W/CLASS B RIP RAP
SEE DETAIL C

HARVEST CHURCH OF GOD

GRADE TO DRAIN

REMOVE

15" RCP-IV

24" RCP-IV

JT DITCH
AIL B

REMOVE

SPECIAL CUT DITCH
W/CLASS B RIP RAP
SEE DETAIL C

18" RCP-III

15" RCP-III

CL B RIP RAP
2 TONS
7 SY GEOTEXTILE

TOE PROTECTION
SEE DETAIL A

PUE

FOXCROFT RD

LIFT STATION
COULD NOT ACCESS

TOWN OF SOUTHERN PINES

F/F DENOTES FILL IN WETLAND

MATCHLINE -L- STA. 21+00.00 SEE SHEET 5

0' 100'
GRAPHIC SCALE

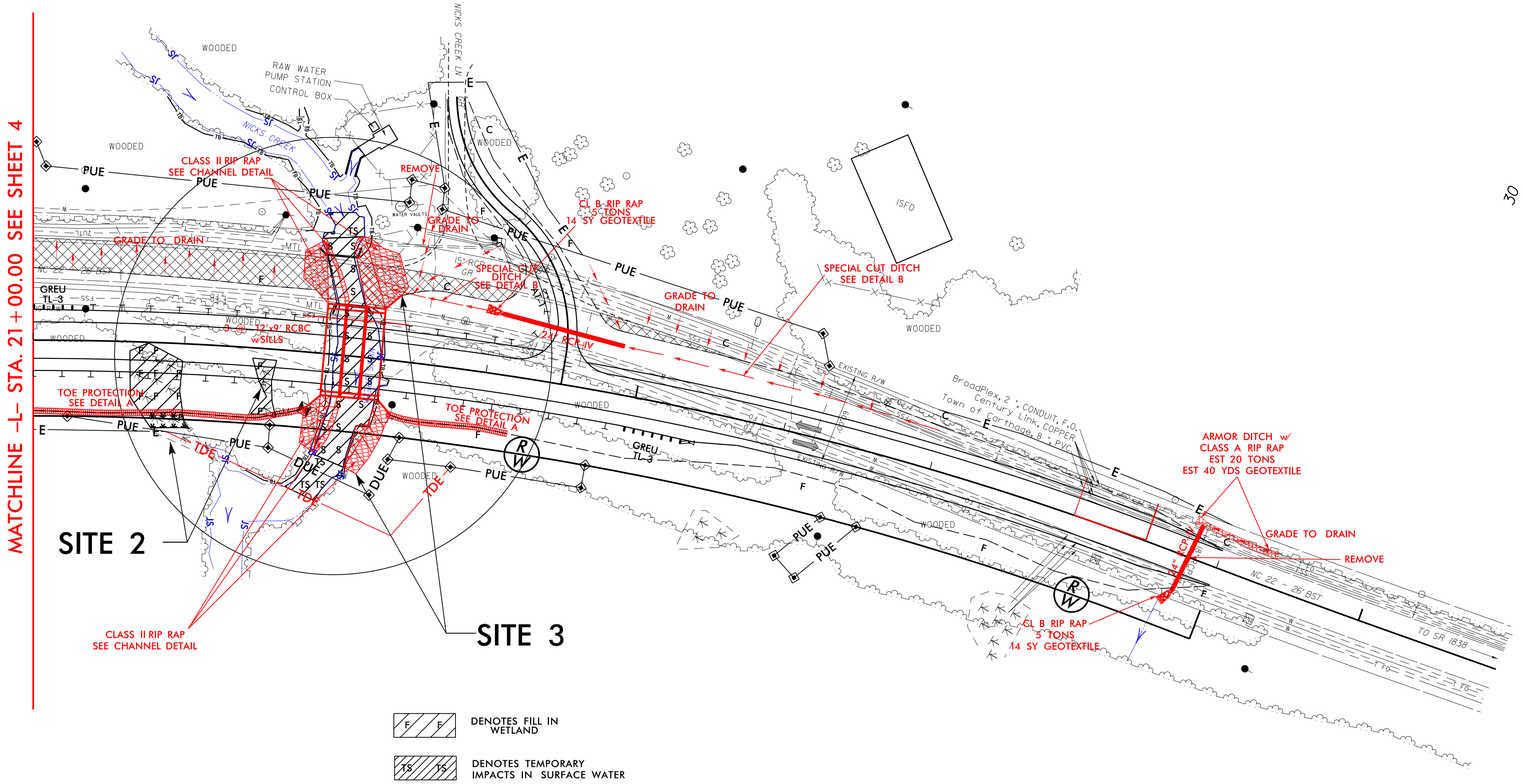
SITE 1

CHRISTOPHER T. VAN DE RIET AND
WIFE, AMANDA L. VAN DE RIET

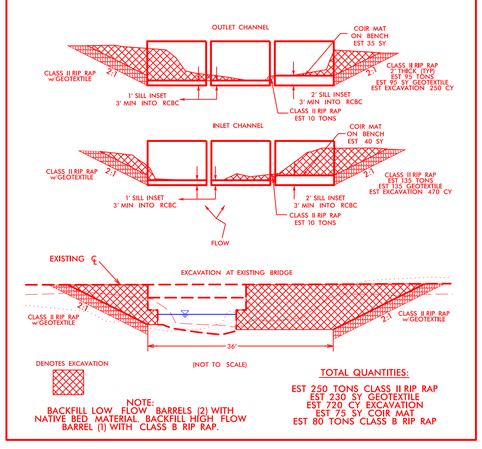
PROJECT REFERENCE NO.	SHEET NO.
BR-0035	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 5 OF 11

REVISIONS 8/17/99



INLET/OUTLET CHANNEL DETAILS
(NOT TO SCALE)

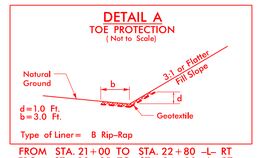


NOTE:
BACKFILL LOW FLOW BARRELS (2) WITH NATIVE BED MATERIAL. BACKFILL HIGH FLOW BARREL (1) WITH CLASS B RIP RAP.

TOTAL QUANTITIES:

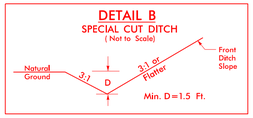
EST 250 TONS CLASS II RIP RAP
EST 230 SY GEOTEXTILE
EST 720 CY EXCAVATION
EST 75 SY COIR MAT
EST 80 TONS CLASS B RIP RAP

DETAIL A
TOE PROTECTION
(Not to Scale)



FROM STA. 21+00 TO STA. 22+80 –L– RT
FROM STA. 23+35 TO STA. 24+20 –L– RT

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)

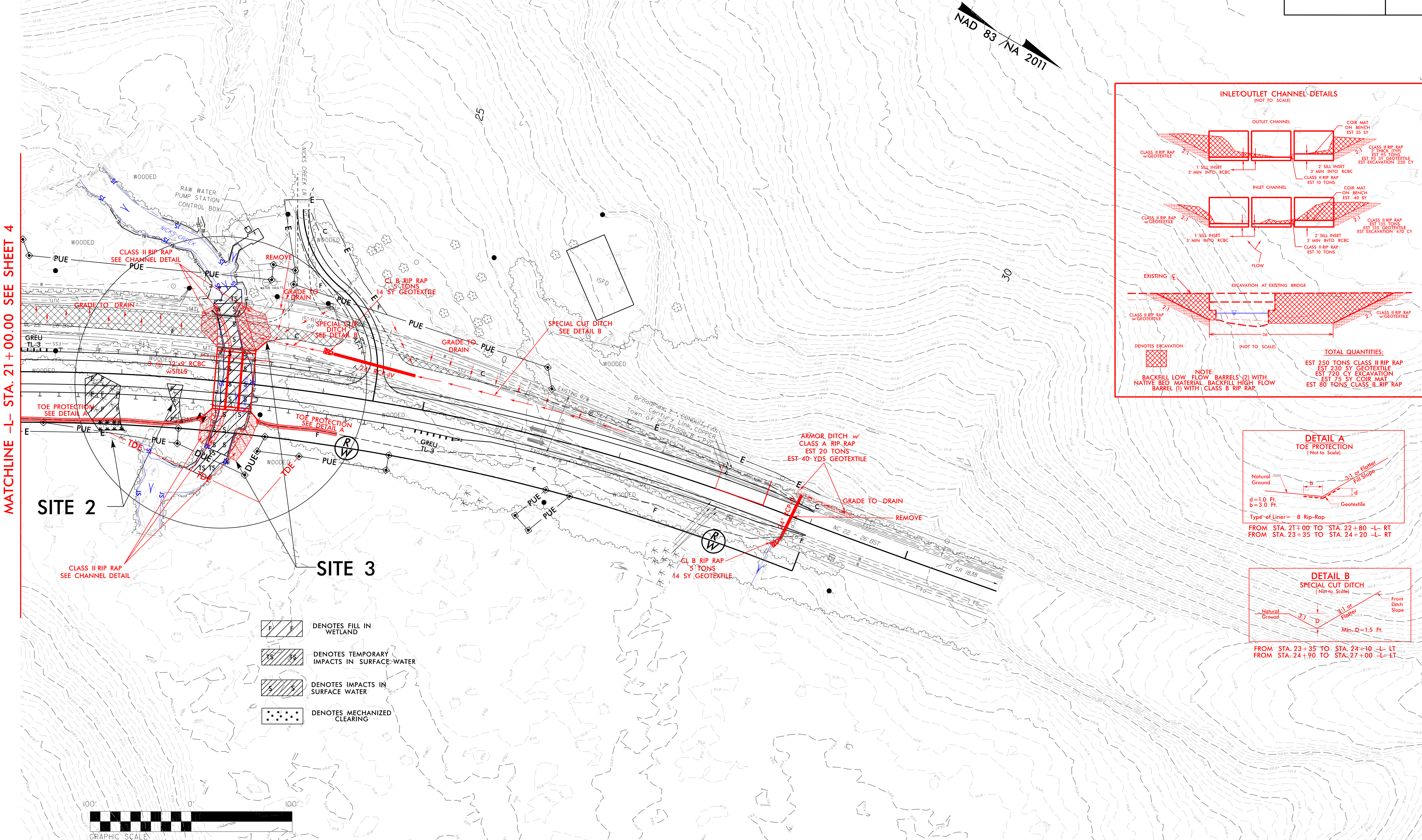


FROM STA. 23+35 TO STA. 24+10 –L– LT
FROM STA. 24+90 TO STA. 27+00 –L– LT

$$$$SYSTIME$$$$
$$$$USERNAME$$$$
$$$$DGN$$$$

PROJECT REFERENCE NO.	SHEET NO.
BR-0035	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING SHEET 6 OF 11



NAD 83/NA 2011
MATCHLINE -L- STA. 21+00.00 SEE SHEET 4
WOODED
RAW WATER PUMP STATION CONTROL BOX
CLASS II RIP RAP SEE CHANNEL DETAIL
REMOVE
GRADE TO DRAIN
CL B RIP RAP 5 TONS 14 SY GEOTEXTILE
SPECIAL CUT DITCH SEE DETAIL B
GRADE TO DRAIN
12'x9' RCBC w/SILLS
TOE PROTECTION SEE DETAIL A
ARMOR DITCH w/ CLASS A RIP RAP EST 20 TONS EST 40 YDS GEOTEXTILE
GRADE TO DRAIN
REMOVE
CL B RIP RAP 5 TONS 14 SY GEOTEXTILE
SITE 2
SITE 3
CLASS II RIP RAP SEE CHANNEL DETAIL
INLET/OUTLET CHANNEL DETAILS (NOT TO SCALE)
OUTLET CHANNEL
INLET CHANNEL
EXCAVATION AT EXISTING BRIDGE
DENOTES EXCAVATION
NOTE: BACKFILL LOW FLOW BARRELS (2) WITH NATIVE BED MATERIAL. BACKFILL HIGH FLOW BARREL (1) WITH CLASS B RIP RAP.
TOTAL QUANTITIES:
EST 250 TONS CLASS II RIP RAP
EST 230 SY GEOTEXTILE
EST 720 CY EXCAVATION
EST 75 SY COIR MAT
EST 80 TONS CLASS B RIP RAP
DETAIL A TOE PROTECTION (Not to Scale)
d=1.0 Ft. b=3.0 Ft.
Type of Liner= B Rip-Rap
FROM STA. 21+00 TO STA. 22+80 -L- RT
FROM STA. 23+35 TO STA. 24+20 -L- RT
DETAIL B SPECIAL CUT DITCH (Not to Scale)
Min. D=1.5 Ft.
FROM STA. 23+35 TO STA. 24+10 -L- LT
FROM STA. 24+90 TO STA. 27+00 -L- LT
DENOTES FILL IN WETLAND
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES IMPACTS IN SURFACE WATER
DENOTES MECHANIZED CLEARING
GRAPHIC SCALE
100' 0' 100'

REVISIONS

Submitted 4/3/2020

PROJECT REFERENCE NO.	SHEET NO.
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PERMIT DRAWING
SHEET 7 OF 11

NAD 83 /NA 2011

REVISIONS

8/17/99

MATCHLINE –L– STA. 21+00.00 SEE SHEET 4

WOODED

RAW WATER PUMP STATION CONTROL BOX

NICKS CREEK

CREEK LN

CLASS II RIP RAP SEE CHANNEL DETAIL

EXPOSED FOOTING

REMOVE

GRADE TO DRAIN

SPECIAL CUT DITCH SEE DETAIL B

3 @ 12'x9' RCBC w/SILLS

25' R 24" RCP-IV 25' R

TOE PROTECTION SEE DETAIL A

GREU TL-3

EXISTING R/W

ISFD

KEVIN A. PREVAT
WIFE, KATHLEEN T. I

TOWN OF CARTHAGE

SITE 2

SITE 3

CHRISTOPHER T. VAN DE RIET AND
WIFE, AMANDA L. VAN DE RIET

F F	DENOTES FILL IN WETLAND
TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
S S	DENOTES IMPACTS IN SURFACE WATER
* * * * * *	DENOTES MECHANIZED CLEARING

100' 0' 100'
GRAPHIC SCALE

$$$$SYSTIME$$$$
$$$$USERNAME$$$$
$$$$DGN$$$$

Submitted 4/3/2020

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
BR-0035	6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 8 OF 11

-L-

(-)2.6800%

(-)4.6580%

STA. 23+12 -L-
3 @ 12' x 9' RCBC W/SILLS
SKEW 90
ELEV=318.9

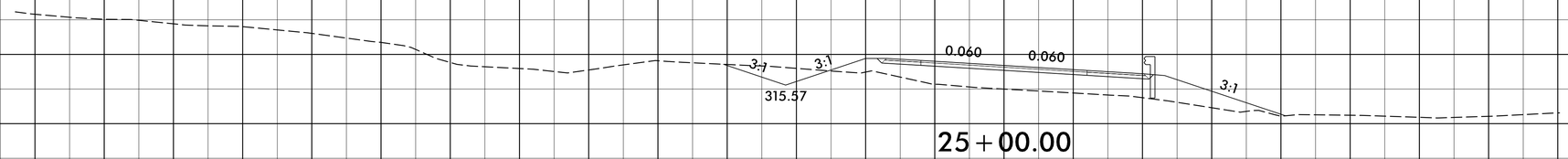
NWS=309.0

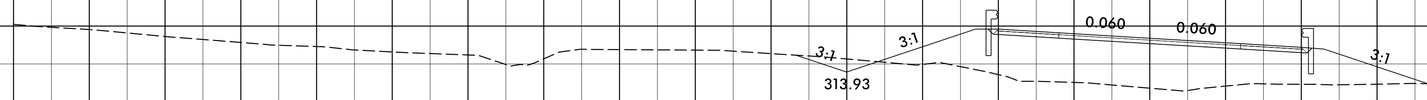
℄ ELEV=304.8
SLOPE=0.5%

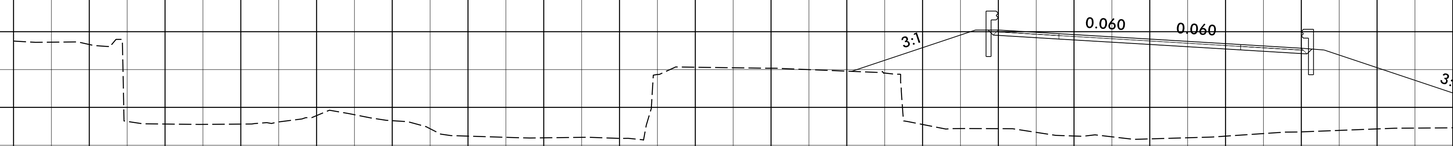
LEFT DITCH

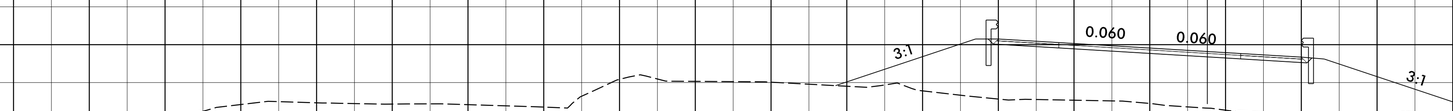
RIGHT DITCH

SYSTEM 6 DGN FILE: BR0035_PLN_PROF_SHEETS.DGN









Submitted 4/3/2020

PROJ. REFERENCE NO.	SHEET NO.
BR-0035	X-6

PERMIT DRAWING
SHEET 9 OF 11

6/23/16

$$$$SYSTIME$$$$ $$$$$$DGN$$$$$$$$$$$$$$$$$$$$ $$$$USERNAME$$$$

Submitted 4/3/2020

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	BR-0035	X-4

PERMIT DRAWING
SHEET 10 OF 11

19+00.00

0.060 0.060 3:1 3:1

WETLAND (STA. 18+75 +/-)

18+50.00

0.060 0.060 3:1 3:1

18+00.00

0.060 0.060 3:1 3:1

17+50.00

0.060 0.060 3:1 4:1 3:1

332.52

-DR2 TIE

17+00.00

0.060 0.060 3:1 4:1 3:1

334.84

16+50.00

$$$$$$SYSTIME$$$$$$
$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

Submitted 4/3/2020

WETLAND AND SURACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	18+75 -L-	Fill	0.050									
2*	21+75 -L-	Fill	0.030			0.010						
2	22+55 -L-	Fill	0.010									
3	23+12 -L-	3@12'X9' RCBC						0.040		61		
3	23+12 -L- Rt/Lt	Bank Stabilization						0.043	0.021	90	45	
TOTALS*:			**0.09**	**0.00**	**0.00**	**0.01**	**0.00**	**0.08**	**0.02**	**151**	**45**	**0**

Rounded totals are sum of actual impacts

NOTES:

* Total take of would be an additional 0.01ac

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
March 2020
MOORE COUNTY
BR-0035
67035.1.1

Revised 2018 Feb