Pre-Construction Notification (PCN) Form

For Nationwide Permits and Regional General Permits

(along with corresponding Water Quality Certifications)

April 11, 2020 Ver 3.1

*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:*

Halifax

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:

B-5662

WBS #*

45617.1.1

(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)

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

☑ 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: 23 - Categorical Exclusions

NWP Numbers (for multiple NWPS):

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

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

check all that apply

☑ 401 Water Quality Certification - Regular

☐ 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

B-5662 - RW - RO 07 (UNDER).pdf 468.49KB

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: *

gcashin@ncdot.gov

1c. Primary Contact Phone: *

(xxx)xxx-xxxx

(919)707-6107

1d. Who is applying for the permit? *

☑ Owner ☐ Applicant (other than owner)

(Check all that apply)

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

○ Yes ◉ No

2. Owner Information

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

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

27604

Country

USA

2e. Telephone Number: *

(xxx)xxx-xxxx

(919)707-6107

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: *

Bridge No. 93 on NC 561 over Conoconnara Swamp (B-5662 Central)

1b. Subdivision name:

(if appropriate)

1c. Nearest municipality / town: *

Halifax

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: *

36.269174

ex: 34.208504

Longitude: *

-77.483784

-77.796371

3. Surface Waters

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

Conconnara Swamp

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

C

Surface Water Lookup

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

Roanoke

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

030101070203

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 of agricultural fields and low density residential areas interspersed with forestland along stream corridors.

Note that the consultant who prepared the NRTR mapped the entire project site as wetland site WA, not a wetland/stream complex with a definable stream channel.

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:

8.3

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

(intermittent and perennial)

200 feet

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

The purpose of this project is to replace a structurally deficient bridge built in 1939.

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

Bridge No. 93 will be replaced on the existing alignment. The roadway grade of the new bridge will be approximately the same as the existing structure. The new bridge will be approximately 110 feet long with two 12-foot lanes and 4-foot paved shoulders. Due to high traffic volumes, traffic will be detoured on-site during construction. The temporary detour will be 90 feet long and include two ten-foot lanes and two-foot shoulders.

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

20200401_B-5662_Environmental_Permit_Plans.pdf 5.39MB

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:

The original PJD package is attached. The wetland line was adjusted in April 2020 by Chad Coggins and Gordon Cashin to better reflect the wetland boundary under typical water level conditions.

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): Beth Reed and Ross Sullivan

Agency/Consultant Company: Kimley-Horn

Other:

5d1. Jurisdictional determination upload

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

_TIP_B5662_PreliminaryJD_Request_28JUL2016.pdf 9.96MB

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 *
1	Roadway fill	P	Riverine Swamp Forest	WA	Yes	Both	0.732 (acres)
1	Excavation	P	Riverine Swamp Forest	WA	Yes	Both	0.003 (acres)
1	Mechanized clearing	P	Riverine Swamp Forest	WA	Yes	Both	0.164 (acres)
1	Temporary fill	T	Riverine Swamp Forest	WA	Yes	Both	0.034 (acres)

2g. Total Temporary Wetland Impact

0.034

2g. Total Permanent Wetland Impact

0.899

2g. Total Wetland Impact

0.933

2h. Comments:

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: *

3:1 slopes will be constructed in wetlands for the bridge replacement. The temporary detour will be built using 2:1 slopes in wetlands.

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

The temporary detour fill will be removed, the area will be regraded to adjacent wetland elevation and replanted with riparian vegetation. Best Management Practices for Construction and Maintenance Activities will be adhered to. See attached SMP for additional information.

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)

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)

0.899

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:

The project is in the Roanoke River Basin where there are no applicable buffer protection rules.

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 CE prepared for this project does not require State Clearing House circulation.

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 minimal transportation impact resulting from the bridge replacement the 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

What Federal Agency is involved?

NOAA Fisheries

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? *

NC Natural Heritage Program database, USFWS Raleigh Field Office website, field surveys. Biological Conclusions of No Effect were reached for the red-cockaded woodpecker, dwarf wedgemussel and Tar River spinymussel. Coordination with NOAA Fisheries resulted in a No Effect call for Atlantic Sturgeon. The Northern long-eared bat will be addressed by the Programmatic Biological Opinion.

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? *

NOAA Fisheries mapping

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? *

Coordination with the State Historic Preservation Office and field surveys.

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:

Hydraulics Unit coordination with FEMA.

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

FEMA maps.

Miscellaneous

Comments

A copy of the CE can be found at:
https://xfer.services.ncdot.gov/pdea/EnvironmentalDocs/Documents/

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 *

Date

4/23/2020

Jurisdictional Determination Request

US Army Corps of Engineers
Wilmington District

This form is intended for use by anyone requesting a jurisdictional determination (JD) from the U.S. Army Corps of Engineers, Wilmington District (Corps). Please include all supporting information, as described within each category, with your request. You may submit your request to the appropriate Corps Field Office (or project manager, if known) via mail, electronic mail, or facsimile. A current list of county assignments by Field Office and project manager can be found on-line at: http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram.aspx , by telephoning: 910-251-4633, or by contacting any of the field offices listed below:

ASHEVILLE REGULATORY FIELD OFFICE

US Army Corps of Engineers
151 Patton Avenue, Room 208
Asheville, North Carolina 28801-5006
General Number: (828) 271-7980
Fax Number: (828) 281-8120

WASHINGTON REGULATORY FIELD OFFICE

US Army Corps of Engineers
2407 West Fifth Street
Washington, North Carolina 27889
General Number: (910) 251-4610
Fax Number: (252) 975-1399

RALEIGH REGULATORY FIELD OFFICE

US Army Corps of Engineers
3331 Heritage Trade Drive, Suite 105
Wake Forest, North Carolina 27587
General Number: (919) 554-4884
Fax Number: (919) 562-0421

WILMINGTON REGULATORY FIELD OFFICE

US Army Corps of Engineers
69 Darlington Avenue
Wilmington, North Carolina 28403
General Number: 910-251-4633
Fax Number: (910) 251-4025

INSTRUCTIONS:

All requestors must complete Parts A, B, C, D, E and F.

NOTE TO CONSULTANTS AND AGENCIES: If you are requesting a JD on behalf of a paying client or your agency, please note the specific submittal requirements in **Part G**.

NOTE ON PART D – PROPERTY OWNER AUTHORIZATION: Please be aware that all JD requests must include the current property owner authorization for the Corps to proceed with the determination, which may include inspection of the property when necessary. This form must be signed by the current property owner to be considered a complete request.

NOTE ON PART D - NCDOT REQUESTS: Property owner authorization/notification for JD requests associated with North Carolina Department of Transportation (NCDOT) projects will be conducted according to the current NCDOT/USACE protocols.

NOTE TO USDA PROGRAM PARTICIPANTS: A Corps approved or preliminary JD may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA Program participants, or anticipate participation in USDA programs, you should also request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

A. PARCEL INFORMATION

Street Address: N/A Linear Transportation Project
City, State: Halifax, North Carolina
County: Halifax
Directions: See Figure 1: Vicinity Map

Parcel Index Number(s) (PIN): N/A (Linear Transportation Project)

B. REQUESTOR INFORMATION

Name: NCDOT; ATTN: Chris Rivenbark, Natural Environment Section
Mailing Address: 1598 Mail Service Center; Raleigh, NC 27699-1598
Telephone Number: (919) 707-6152
Electronic Mail Address[1]: crivenbark@ncdot.gov

Select one:

- [x] I am the current property owner.
- [ ] I am an Authorized Agent or Environmental Consultant[2]
- [ ] Interested Buyer or Under Contract to Purchase
- [ ] Other, please explain.

C. PROPERTY OWNER INFORMATION

Name: NCDOT; ATTN: Chris Rivenbark, Natural Environment Section
Mailing Address: 1598 Mail Service Center
Raleigh, NC 27699-1598
Telephone Number: (919) 707-6152
Electronic Mail Address[3]: crivenbark@ncdot.gov

- [ ] Proof of Ownership Attached (e.g. a copy of Deed, County GIS/Parcel/Tax Record data)

[1] If available
[2] Must attach completed Agent Authorization Form
[3] If available

D. PROPERTY OWNER CERTIFICATION[4]

I, the undersigned, a duly authorized owner of record of the property/properties identified herein, do authorize representatives of the Wilmington District, U.S. Army Corps of Engineers (Corps) to enter upon the property herein described for the purpose of conducting on-site investigations and issuing a determination associated with Waters of the U.S. subject to Federal jurisdiction under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899.

Property Owner (please print) _____ Date _____

Property Owner Signature _____

E. JURISDICTIONAL DETERMINATION TYPE

Select One:

☑ I am requesting that the Corps provide a preliminary JD for the property identified herein. This request does include a delineation.

☐ I am requesting that the Corps provide a preliminary JD for the property identified herein. This request does NOT include a delineation.

☐ I am requesting that the Corps investigate the property/project area for the presence or absence of WoUS[5] and provide an approved JD for the property identified herein. This request does NOT include a request for a verified delineation.

☐ I am requesting that the Corps delineate the boundaries of all WoUS on a property/project area and provide an approved JD (this may or may not include a survey plat).

☐ I am requesting that the Corps evaluate and approve a delineation of WoUS (conducted by others) on a property/project area and provide an approved JD (may or may not include a survey plat).

[4] For NCDOT requests following the current NCDOT/USACE protocols, skip to Part E.
[5] Waters of the United States

F. ALL REQUESTS

☑ Map of Property or Project Area (attached). This Map must clearly depict the boundaries of the area of evaluation.

☑ Size of Property or Project Area 13.15 acres

☑ I verify that the property (or project) boundaries have recently been surveyed and marked by a licensed land surveyor OR are otherwise clearly marked or distinguishable.

G. JD REQUESTS FROM CONSULTANTS OR AGENCIES

(1) Preliminary JD Requests:

☑ Completed and signed Preliminary Jurisdictional Determination Form[6].

☑ Project Coordinates: 36.268964 Latitude -77.483907 Longitude

Maps (no larger than 11x17) with Project Boundary Overlay:

☑ Large and small scale maps that depict, at minimum: streets, intersections, towns

☑ Aerial Photography of the project area

☑ USGS Topographic Map

☑ Soil Survey Map

☐ Other Maps, as appropriate (e.g. National Wetland Inventory Map, Proposed Site Plan, previous delineation maps, LIDAR maps, FEMA floodplain maps)

[6] See Appendix A of this Form. From Regulatory Guidance Letter No. 08-02, dated June 26, 2008

Delineation Information (when applicable)[7]:

Wetlands:

☑ Wetland Data Sheets[8]

☑ Upland Data Sheets

☐ Landscape Photos, if taken

Tributaries:

☐ USACE Assessment Forms

☐ Other Assessment Forms (when appropriate)

☑ Field Sketch overlain on legible Map that includes:

- All aquatic resources (for sites with multiple resources, label and identify)
- Locations of wetland data points and/or tributary assessment reaches
- Locations of photo stations
- Approximate acreage/linear footage of aquatic resources

(2) Approved JDs including Verification of a Delineation:

☐ Project Coordinates: _____ Latitude _____ Longitude

Maps (no larger than 11x17) with Project Boundary Overlay:

☐ Large and small scale maps that depict, at minimum: streets, intersections, towns

☐ Aerial Photography of the project area

☐ USGS Topographic Map

☐ Soil Survey Map

☐ Other Maps, as appropriate (e.g. National Wetland Inventory Map, Proposed Site Plan, previous delineation maps)

[7] 1987 Manual Regional Supplements and Data forms can be found at:
http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/reg_supp.aspx
Wetland and Stream Assessment Methodologies can be found at:
http://portal.ncdenr.org/c/document_library/get_file?uuid=76f3c58b-dab8-4960-ba43-45b7faf06f4c&groupId=38364 and,
http://www.saw.usace.army.mil/Portals/59/docs/regulatory/publicnotices/2013/NCSAM_Draft_User_Manual_130318.pdf

[8] Delineation information must include, at minimum, one wetland data sheet for each wetland/community type.

Delineation Information (when applicable):

Wetlands:

☐ Wetland Data Sheets[9]

☐ Upland Data Sheets

☐ Landscape Photos, if taken

Tributaries:

☐ USACE Assessment Forms

☐ Other Assessment Forms (when appropriate)

☐ Field Sketch overlain on legible Map that includes:

- All aquatic resources (for sites with multiple resources, label and identify)
- Locations of wetland data points and/or tributary assessment reaches
- Locations of photo stations
- Approximate acreage/linear footage of aquatic resources

Supporting Jurisdictional Information (for Approved JDs only)

☐ Approved Jurisdictional Determination Form(s) (also known as "Rapanos Form(s)")

☐ Map(s) depicting the potential (or lack of potential) hydrologic connection(s), adjacency, etc. to navigable waters.

[9] Delineation information must include, at minimum, one wetland data sheet for each wetland/community type.

I. REQUESTS FOR CORPS APPROVAL OF SURVEY PLAT

Prior to final production of a Plat, the Wilmington District recommends that the Land Surveyor electronically submit a draft of a Survey Plat to the Corps project manager for review.

Due to storage limitations of our administrative records, the Corps requires that all hard-copy submittals include at least one original Plat (to scale) that is no larger than 11"x17" (the use of match lines for larger tracts acceptable). Additional copies of a plat, including those larger than 11"x17", may also be submitted for Corps signature as needed. The Corps also accepts electronic submittals of plats, such as those transmitted as a Portable Document Format (PDF) file. Upon verification, the Corps can electronically sign these plats and return them via e-mail to the requestor.

(1) PLATS SUBMITTED FOR APPROVAL

☐ Must be sealed and signed by a licensed professional land surveyor

☐ Must be to scale (all maps must include both a graphic scale and a verbal scale)

☐ Must be legible

☐ Must include a North Arrow, Scale(s), Title, Property Information

☐ Must include a legible WoUS Delineation Table of distances and bearings/metes and bounds/GPS coordinates of all surveyed delineation points

☐ Must clearly depict surveyed property or project boundaries

☐ Must clearly identify the known surveyed point(s) used as reference (e.g. property corner, USGS monument)

☐ When wetlands are depicted:

- Must include acreage (or square footage) of wetland polygons
- Must identify each wetland polygon using an alphanumeric system

☐ When tributaries are depicted:

- Must include either a surveyed, approximate centerline of tributary with approximate width of tributary OR surveyed Ordinary High Water Marks (OHWM) of tributary
- Must identify each tributary using an alphanumeric system
- Must include linear footage of tributaries and calculated area (using approximate widths or surveyed OHWM)
- Must include name of tributary (based on the most recent USGS topographic map) or, when no USGS name exists, identify as "unnamed tributary"

☐ all depicted WoUS (wetland polygons and tributary lines) must intersect or tie-to surveyed project/property boundaries

☐ Must include the location of wetland data points and/or tributary assessment reaches

☐ Must include, label accordingly, and depict acreage of all waters not currently subject to the requirements of the CWA (e.g. "isolated wetlands", "non-jurisdictional waters"). NOTE: An approved JD must be conducted in order to make an official Corps determination that a particular waterbody or wetland is <u>not</u> jurisdictional.

☐ Must include and survey all existing conveyances (pipes, culverts, etc.) that transport WoUS

(2) CERTIFICATION LANGUAGE

☐ When the entire actual Jurisdictional Boundary is depicted:

include the following Corps Certification language:

"This certifies that this copy of this plat accurately depicts the boundary of the jurisdiction of Section 404 of the Clean Water Act as determined by the undersigned on this date. Unless there is a change in the law or our published regulations, the determination of Section 404 jurisdiction may be relied upon for a period not to exceed five (5) years from this date. The undersigned completed this determination utilizing the appropriate Regional Supplement to the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual."

Regulatory Official: _____

Title: _____

Date: _____

USACE Action ID No.: _____

☐ When uplands may be present within a depicted Jurisdictional Boundary:

include the following Corps Certification language:

"This certifies that this copy of this plat identifies all areas of waters of the United States regulated pursuant to Section 404 of the Clean Water Act as determined by the undersigned on this date. Unless there is change in the law or our published regulations, this determination of Section 404 jurisdiction may be relied upon for a period not to exceed five years from this date. The undersigned completed this determination utilizing the appropriate Regional Supplement to the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual."

Regulatory Official: _____

Title: _____

Date: _____

USACE Action ID No.: _____

(3) GPS SURVEYS

For Surveys prepared using a Global Positioning System (GPS), the Survey must include all of the above, as well as:

☐ be at sub-meter accuracy at each survey point.

☐ include an accuracy verification:
One or more known points (property corner, monument) shall be located with the GPS and cross-referenced with the existing traditional property survey (metes and bounds).

☐ include a brief description of the GPS equipment utilized.

ATTACHMENT A
PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): _____

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:
NCDOT; ATTN: Chris Rivenbark, Natural Environment Section
1598 Mail Service Center; Raleigh, NC 27699-1598

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:
_____

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
_____

(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)

State: NC County/parish/borough: Halifax City: Halifax

Center coordinates of site (lat/long in degree decimal format):
Lat. 36.268964 °N; Long. 77.483907 °W.

Universal Transverse Mercator: 18

Name of nearest waterbody: Conoconnara Swamp

Identify (estimate) amount of waters in the review area:
Non-wetland waters:
N/A linear feet: N/A width (ft) and/or N/A acres.

Cowardin Class: N/A

Stream Flow: N/A

Wetlands: 8.3 acres.

Cowardin Class: Palustrine

Name of any water bodies on the site that have been identified as Section 10 waters:
Tidal: N/A
Non-Tidal: N/A

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

☐ Office (Desk) Determination. Date: _____

☐ Field Determination. Date(s): _____

SUPPORTING DATA. Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: NCDOT

☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.

- ☐ Office concurs with data sheets/delineation report.
- ☐ Office does not concur with data sheets/delineation report.

☐ 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

☑ U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000 - Boones Crossroads

☑ USDA Natural Resources Conservation Service Soil Survey. Citation: Halifax County, 2006

☐ National wetlands inventory map(s). Cite name: _____

☐ State/Local wetland inventory map(s): _____

☐ FEMA/FIRM maps: _____

☐ 100-year Floodplain Elevation is: _____ (National Geodectic Vertical Datum of 1929)

☑ Photographs: ☑ Aerial (Name & Date): NC Statewide Orthoimagery Project (2015) or ☐ Other (Name & Date): _____

☐ Previous determination(s). File no. and date of response letter: _____

☐ Other information (please specify): _____

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

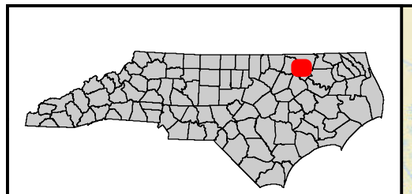
2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that 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) that 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) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (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 preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes 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 approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, 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, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

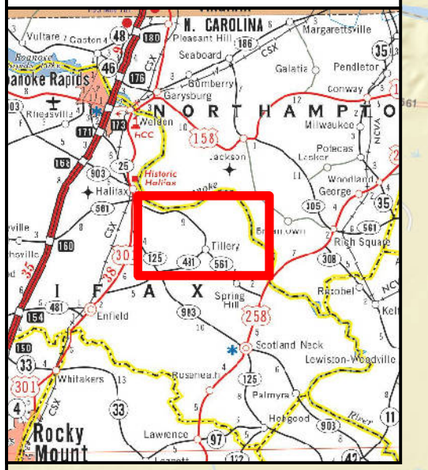
This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

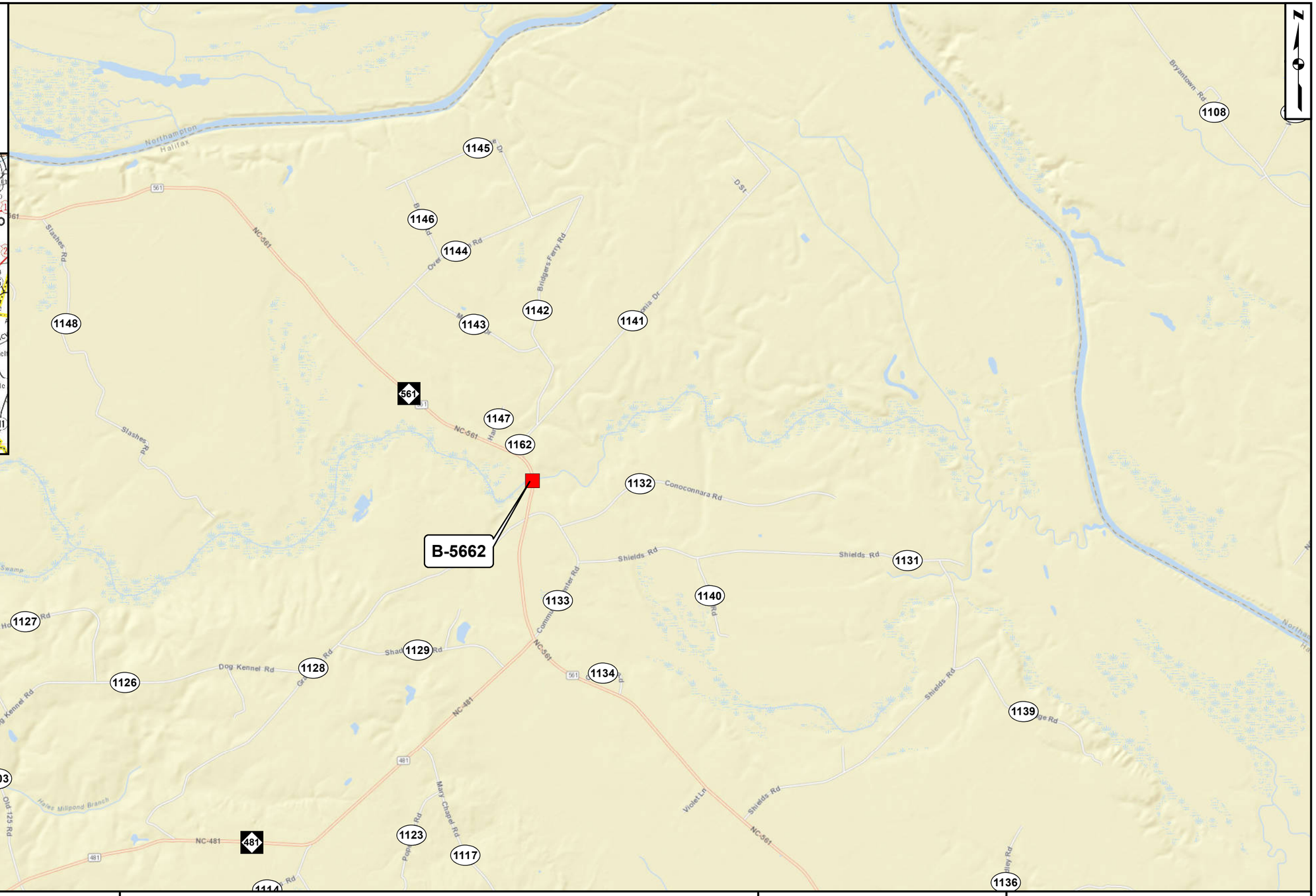
IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

_____	_____
Signature and date of Regulatory Project Manager (REQUIRED)	Signature and date of person requesting preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

Site number	Latitude	Longitude	Cowardin Class	Estimated amount of aquatic resource in review area	Class of aquatic resource
WA	36.269013	-77.484191	Palustrine	8.3 acres	Non-section 10 – wetland







NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS UNIT	**VICINITY MAP** **Replace Bridge No. 93 on NC 561 over Conoconnara Swamp in Halifax County** TIP Project B-5662	0 0.75 Miles	Div: 4 TIP# B-5662 Date: DECEMBER 2015	**Figure 1**

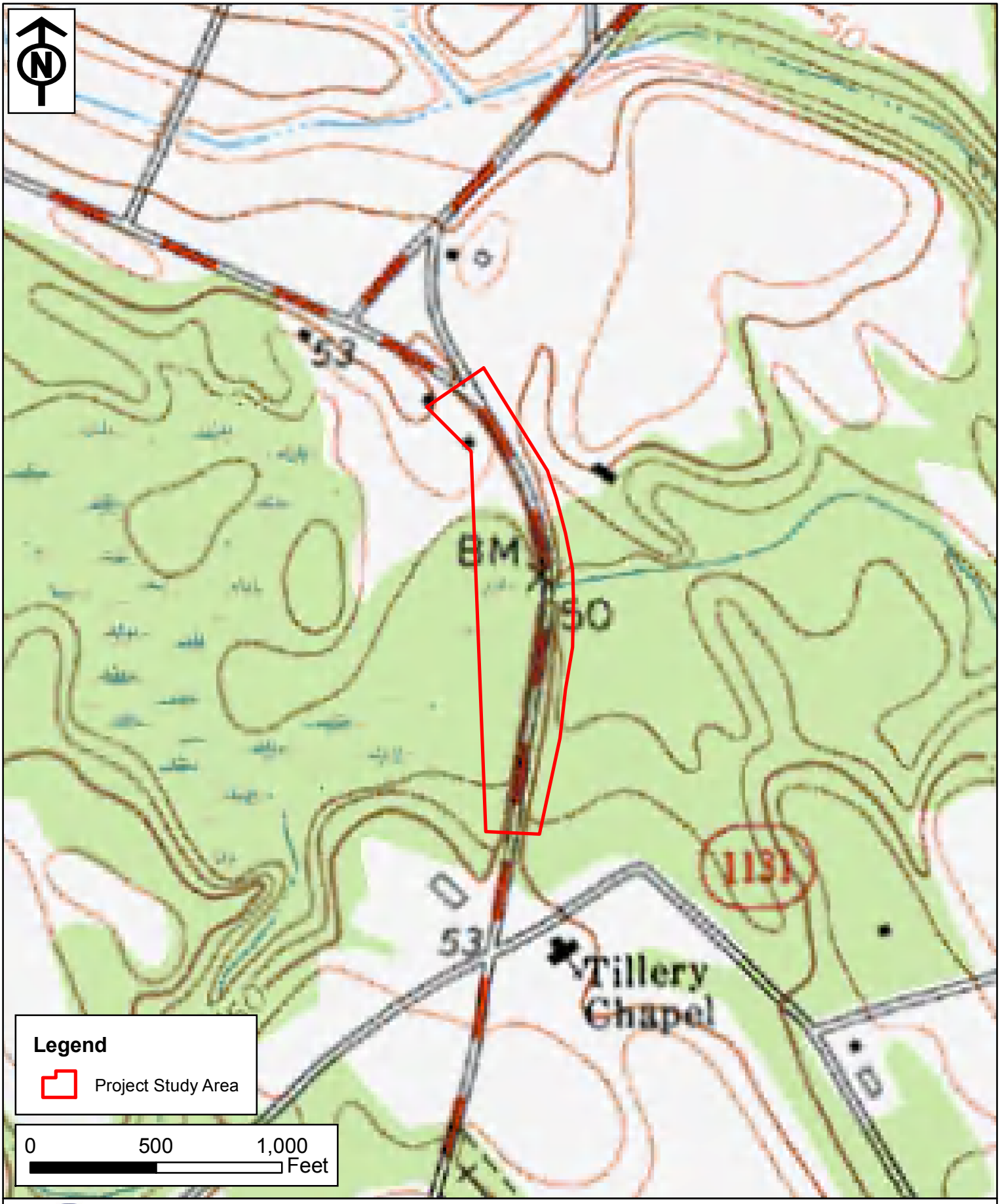


Figure 2: Project Study Area Map
TIP B-5662
Replace Bridge No. 93 on NC 561 over Conocannara Swamp
Halifax County, NC

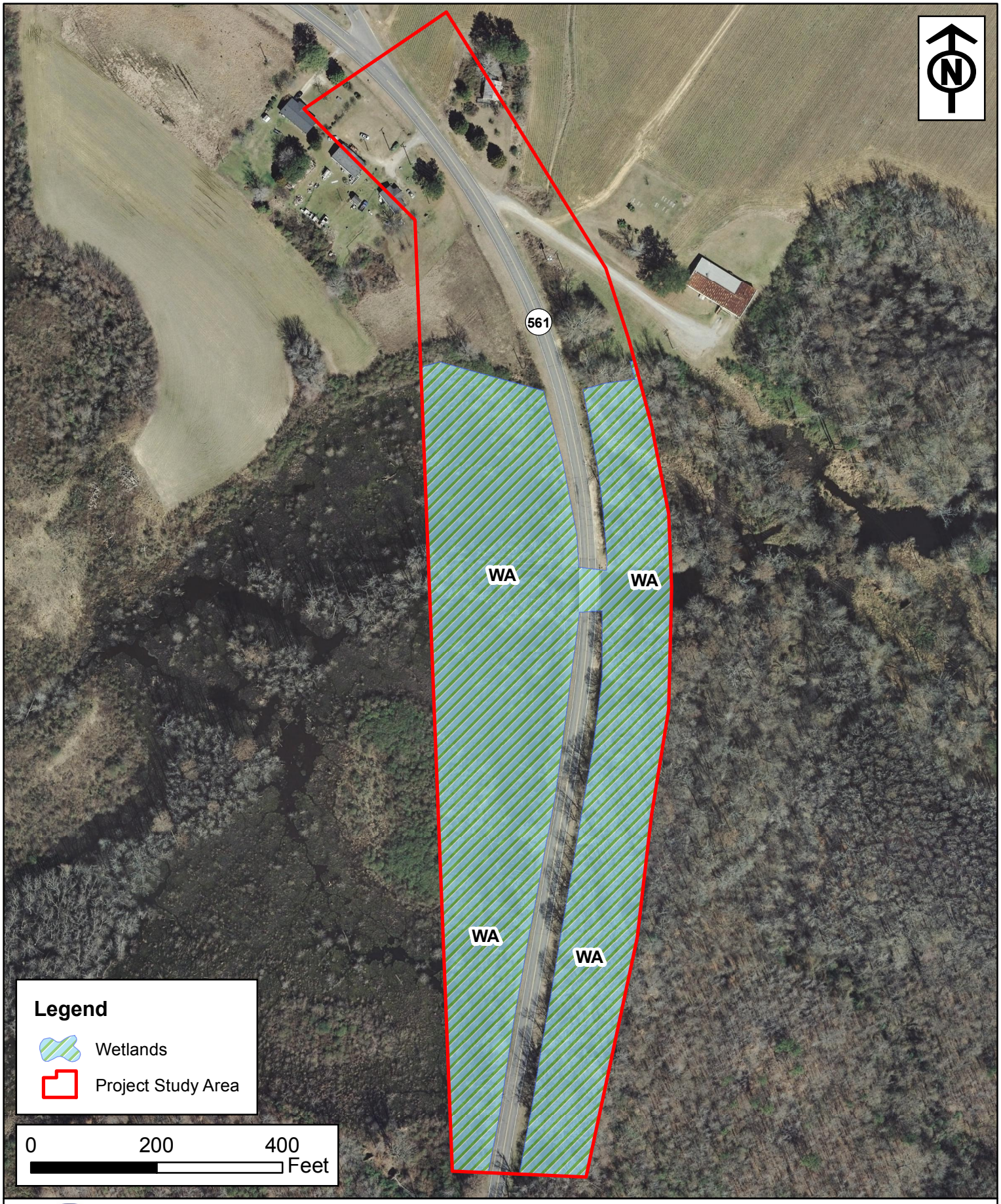


Figure 3: Jurisdictional Features Map
TIP B-5662
Replace Bridge No. 93 on NC 561 over Conocannara Swamp
Halifax County, NC

Figure 4: NRCS Soil Survey Map
Halifax County, 2006
TIP B-5662
Replace Bridge No. 93 on NC 561 over Conocannara Swamp
Halifax County, NC

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: TIP# B-5662 City/County: Halifax Sampling Date: 6/7/2016

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

Investigator(s): R. Sullivan & W. Sullivan (Kimley-Horn) Section, Township, Range: Halifax

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

Subregion (LRR or MLRA): LRR P Lat: 36.270110 Long: -77.483610 Datum: NAD83

Soil Map Unit Name: CwA - Chewacla and Wehadkee soils, 0 to 1 percent slopes NWI classification: None

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:

Data point WA-UP was taken on a slight hillslope 1' higher in elevation and 25' upslope from WA-WET.

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): 15"
Saturation Present? (includes capillary fringe)	Yes [✓]	No [ ]	Depth (inches): 15"

Wetland Hydrology Present? Yes [ ] No [✓]

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

Remarks:

No hydrology indicators were observed.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: WA-UP

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Platanus occidentalis*	35%	Y	FACW
2. *Liquidambar styraciflua*	30%	Y	FAC
3. *Acer rubrum*	30%	Y	FAC
4. *Fagus grandifolia*	5%	N	FACU
5.			
6.			
7.			
8.			
	100% = Total Cover		
50% of total cover: 50%	20% of total cover: 20%		
Sapling/Shrub Stratum (Plot size: 30')			
1. *Ligustrum sinense*	25%	Y	FAC
2. *Viburnum dentatum*	10%	Y	FAC
3. *Rosa multiflora*	5%	N	FACU
4.			
5.			
6.			
7.			
8.			
	40% = Total Cover		
50% of total cover: 20%	20% of total cover: 8%		
Herb Stratum (Plot size: 30')			
1. *None*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		
50% of total cover:	20% of total cover:		
Woody Vine Stratum (Plot size: 30')			
1. *Smilax rotundifolia*	10%	Y	FAC
2. *Campsis radicans*	5%	Y	FAC
3. *Parthenocissus quinquefolia*	5%	Y	FACU
4. *Toxicodendron radicans*	5%	Y	FAC
5.			
	25% = Total Cover		
50% of total cover: 12.5%	20% of total cover: 5%		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 88.9% (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

X 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-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
0-14"	10YR 4/4	100%					Sandy loam	
14-18"	10YR 4/2	60%	10YR 4/4	40%	C	M	Sandy clay	
18-24"	10YR 5/1	85%	10YR 4/5	15%	C	M	Sandy clay 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:

No hydric soil indicators were observed.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: TIP# B-5662 City/County: Halifax Sampling Date: 6/7/2016

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

Investigator(s): R. Sullivan & W. Sullivan (Kimley-Horn) Section, Township, Range: Halifax

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

Subregion (LRR or MLRA): LRR P Lat: 36.270060 Long: -77.483563 Datum: NAD83

Soil Map Unit Name: CwA - Chewacla and Wehadkee soils, 0 to 1 percent slopes NWI classification: None

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:

Wetland WA is a large bottomland swamp named Conocannara Swamp. No surface water was present at data point WA-WET, but inches to feet of standing water was observed throughout the wetland.

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): 1-2"
Water Table Present?	Yes ☑	No ☐	Depth (inches): 10"
Saturation Present? (includes capillary fringe)	Yes ☑	No ☐	Depth (inches): 10"

Wetland Hydrology Present? Yes ☑ No ☐

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

Remarks:

Wetland WA is a large bottomland swamp system that is flooded year-round. No standing water was observed at the wetland data point, but most of the wetland was inundated with several inches to several feet of water. Saturation and water table observed at 10". Numerous crayfish burrows observed in WA.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: WA-WET

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Platanus occidentalis*	30%	Y	FACW
2. *Acer rubrum*	30%	Y	FAC
3. *Ulmus rubra*	15%	N	FAC
4. *Fraxinus pennsylvanica*	15%	N	FACW
5.			
6.			
7.			
8.			
	90%	= Total Cover	
50% of total cover: 45%	20% of total cover: 18%		
Sapling/Shrub Stratum (Plot size: 30')			
1. *Lindera benzoin*	5%	Y	FACW
2. *Quercus michauxii*	5%	Y	FACW
3. *Ilex opaca*	5%	Y	FAC
4. *Liquidambar styraciflua*	5%	Y	FAC
5.			
6.			
7.			
8.			
	20%	= Total Cover	
50% of total cover: 10%	20% of total cover: 4%		
Herb Stratum (Plot size: 30')			
1. *Saururus cernuus*	20%	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	20%	= Total Cover	
50% of total cover: 10%	20% of total cover: 4%		
Woody Vine Stratum (Plot size: 30')			
1. *Smilax rotundifolia*	15%	Y	FAC
2. *Parthenocissus quinquefolia*	5%	Y	FACU
3.			
4.			
5.			
	20%	= Total Cover	
50% of total cover: 10%	20% of total cover: 4%		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 88.9% (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

X 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).

Numerous buttresssed trees were observed within WA.

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)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3"	10YR 4/3	100%					Loam	
3-6"	10YR 5/2	55%	10YR 5/5	45%	C	M	Clay	
6-18"	10YR 5/1	60%	10YR 5/4	40%	C	M	Clay	
18-24"	10YR 6/1	65%	10YR 5/6	35%	C	M	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:

Soil saturation and the water table was observed at 10" within the soil profile.

ROY COOPER
Governor
MICHAEL S. REGAN
Secretary
TIM BAUMGARTNER
Director

NORTH CAROLINA
Environmental Quality

April 23, 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:

B-5662, Replace Bridge 91 on NC 561 over Conoconnara Swamp, Halifax 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 April 22, 2020, the impacts are located in CU 03010107 of the Roanoke River basin in the Northern Inner Coastal Plain (NICP) Eco-Region, and are as follows:

Roanoke 03010107 NICP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	0	0.899	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,

Elizabeth Harmon

James B. Stanfill
DMS Asset Management Supervisor

cc: Mr. Monte Matthews, USACE – Raleigh Regulatory Field Office
Ms. Amy Chapman, NCDWR
File: B-5662

Submitted 4/23/2020

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 2.07; Released October 2016)

WBS Element:	45617.1.1	**TIP No.:**	B-5662	**County(ies):**	Halifax	**Page**	1 of 1

General Project Information

WBS Element:	45617.1.1	**TIP Number:**	B-5662	**Project Type:**	Bridge Replacement	**Date:**	3/27/2020
NCDOT Contact:	Tierre Peterson			**Contractor / Designer:**	Leah Young, PE		
Address:	1000 Birch Ridge Dr Raleigh, NC 27610			**Address:**	4505 Falls of Neuse Road Suite 400 Raleigh, NC 27609		
Phone:	(919) 707-6488			**Phone:**	(919) 783-9214		
Email:	trpeterson@ncdot.gov			**Email:**	Leah.Young@kci.com		
City/Town:	None			**County(ies):**	Halifax		
River Basin(s):	Roanoke			**CAMA County?**	No		
Wetlands within Project Limits?	Yes						

Project Description

Project Length (lin. miles or feet):	0.20	**Surrounding Land Use:**	Wetlands/Rural Residential/Agricultural				
	Proposed Project			**Existing Site**			
Project Built-Upon Area (ac.)	0.7	ac.		0.6	ac.		
Typical Cross Section Description:	12' TRAVEL LANES WITH 4' PAVED SHOULDER AT BRIDGE; 35.25' OUT TO OUT			APPROXIMATE 11' TRAVEL LANES WITH 2' PAVED SHOULDER			
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	1400	Year: 2040	Existing:	1150	Year:	2020
General Project Narrative: (Description of Minimization of Water Quality Impacts)	This project will replace Halifax County Bridge #0093 and its approaches. The proposed replacement is 110' long with a clear roadway width of 32'. This structure provides 2'-12' travel lanes with a 4' paved shoulder. The proposed bridge will have 1.5:1 sloping riprap abutments and 4' caps at the end bents. Placement and construction of the proposed bridge, end bents, caps, and associated roadway fill will not result in any jurisdictional stream or similar environmental impacts. There will be no permanent channel changes. There are wetlands present over the extent of the project. The removal of the existing structure, excavation under the bridge, placement of riprap for bank stabilization, and roadway fill results in 0.73 acres of permanent fill, <0.01 acres in excavation in wetlands, 0.16 acres of mechanized clearing. Mechanized clearing will be limited to 5' off roadway fill. Additionally, there will be 0.05 acres of temporary fill and 0.23 acres of hand clearing in wetlands due to the construction of the detour bridge. STORMWATER CONTROLS: The proposed bridge does not require deck drains. The runoff from the bridge discharges through a pipe/inlet system in the northwest quadrant of the project outside of the jurisdictional stream at non-erosive velocities. In all bridge quadrants, roadway runoff is treated via vegetated roadway shoulder and existing vegetated swales prior to entering the stream.						

Waterbody Information

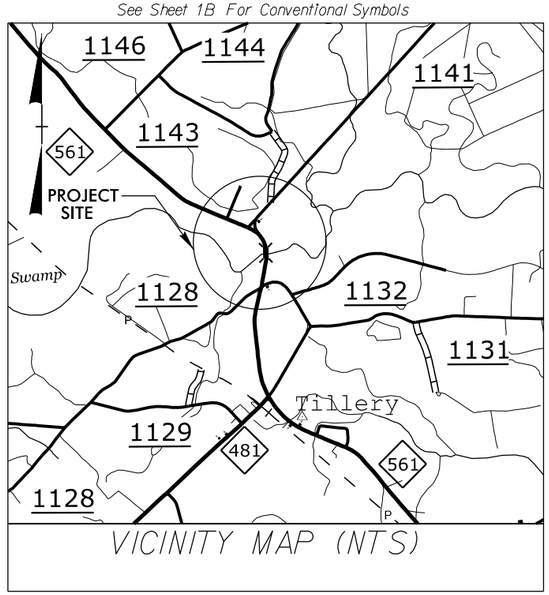
Surface Water Body (1):	CONOCONNARA SWAMP			**NCDWR Stream Index No.:**	23-33		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**		Class C			
		Supplemental Classification:		None			
Other Stream Classification:	None						
Impairments:	None						
Aquatic T&E Species?	No	Comments:					
NRTR Stream ID:	N/A				**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	Yes	**Deck Drains Discharge Over Buffer?**	N/A		**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)			(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)							

09/08/99

TIP PROJECT: B-5662

CONTRACT: C204489

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



VICINITY MAP (NTS)

90% PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HALIFAX COUNTY

PERMIT DRAWING
SHEET 1 OF 16

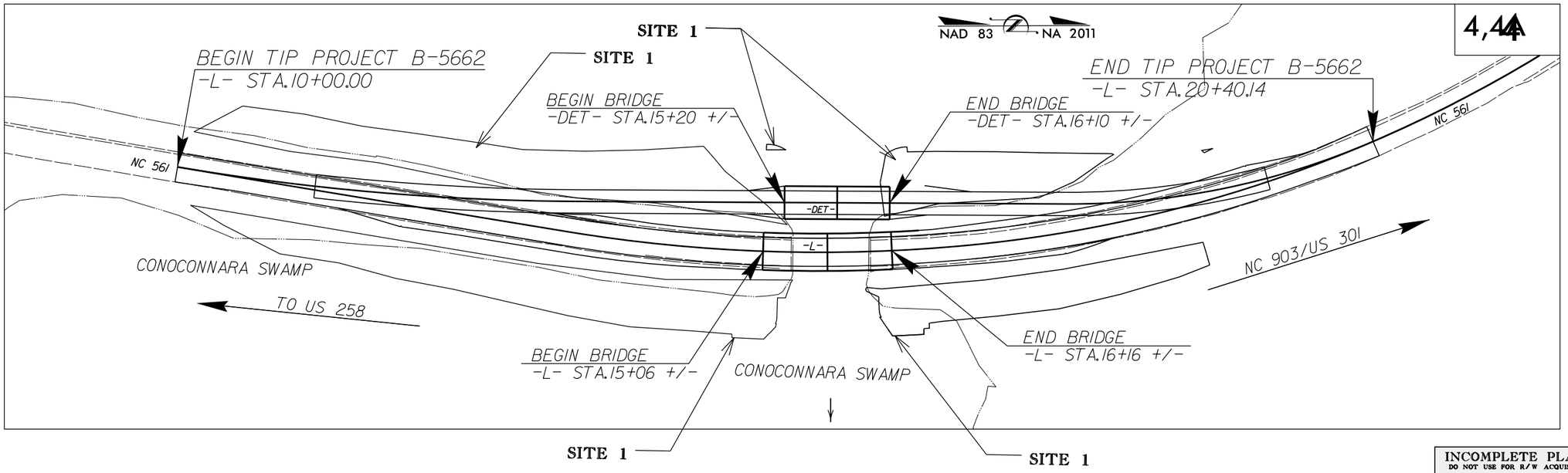
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5662	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
45617.1.1		P.E.
45617.2.1		ROW/UTIL
45817.3.1		CONSTR.

LOCATION: REPLACE BRIDGE NO. 93 OVER CONOCONNARA SWAMP ON NC 561

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE

WETLAND AND STREAM IMPACTS



INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2020 = 1150
ADT 2040 = 1400
K = 10 %
D = 55 %
T = 12 % *
V = 60 MPH
V DET = 45 MPH
* TTST =5% DUAL 7%
MAJOR COLLECTOR
REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-5662 = .176 MILES
LENGTH OF STRUCTURE TIP PROJECT B-5662 = .021 MILES
TOTAL LENGTH OF TIP PROJECT B-5662 = .197 MILES

Prepared In the Office of:

KCI Associates of N.C., P.A.
4505 Falls of Neuse Road, Suite 400
Raleigh, NC 27609
Phone (919) 783-9214
Fax (919) 783-9266

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
DECEMBER 19, 2019

LETTING DATE:
JUNE 16, 2020

NCDOT CONTACT: KRISTY ALFORD, P.E.
STRUCTURES MANAGEMENT UNIT

Plans Prepared For:

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

DEWAYNE L. SYKES, P.E.
PROJECT ENGINEER

BRYAN E. HOUGH, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 033860 ENGINEER SARAH M YOUNG P.E.

SIGNATURE:

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 036853 ENGINEER BRYAN E HOUGH P.E.

SIGNATURE:

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION ·

3/31/2020
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Elizabeth.Sheldon

Submitted 4/23/2020

PERMIT DRAWING
SHEET 2 OF 16

PROJECT REFERENCE NO.	SHEET NO.
B-5662	PRM-2
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 036853 ENGINEER BRYAN E. HOSH

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 033860 ENGINEER LEAH N. YOUNG

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KCI Engineers • Planners • Scientists • Construction Managers
4505 Falls of Neuse Road, Suite 400
Raleigh, NC 27609
Phone (919) 783-9214 • Fax (919) 783-9266
http://www.kci.com

REVISIONS
8/17/99 -
12/17/2019 - Revised PUE and TUE limits on parcel 2 and added PUE and TUE to parcel number 3 due revised water line design.

4/1/2020
M:\2018\25\801945.21 B-5662\Hydraulics\PERMITS\Environmental\Drawings Wetland\B-5662_prm_psh_02.dgn
Elizabeth.Sheldon

NAD 83/NA 2011

SAG 10+90.00
-.3000% | +0.5097%

CREST 13+90.00
+.5097% | -0.3000%

INSET B

INSET D

SITE 1

MATCHLINE -EL- 19+25 - SEE INSET A

-EL- STA. 19+79.22

BEGIN APPROACH SLAB
-L- STA. 14+91.83
BEGIN BRIDGE
-L- STA. 15+06.00

END APPROACH SLAB
-L- STA. 16+30.17
END BRIDGE
-L- STA. 16+16.00

NC 561
N 9° 37' 13.3" E
N 9° 52' 11.4" E

CONOCONNARA SWAMP

LLOYD C. MANLEY
DB 1561 PG 178

MARTHA CAPEL MERRITT
DB 1913 PG 681

FRED L. NEVILLE
DB 792 PG 211
PB 14 PG 86

ELEANOR HOLLEY
DB 1793 PG 441
PB 6 PG 40-D

VERGIE F. JOHNSON
DB 1793 PG 441
PB 6 PG 40-D

WALTER JAMES TILLERY
DB 02-E PG 52
PB 6 PG 40-D

CLASS II RIPRAP
TOE ELEV. 43.3'
STA +81
(STRUCTURES PAY ITEM)

STD. RIPRAP PAD CL. B
EST 1 TON
EST 5 SY GT

15" W.2 ELBOWS

CLASS II RIPRAP
TOE ELEV. 43.3'
STA +41
(STRUCTURES PAY ITEM)

TOE PROTECTION
SEE DETAIL 1

REMOVE EXISTING BRIDGE

CLASS II RIPRAP
TOE ELEV. 43.3'
STA +39
(STRUCTURES PAY ITEM)

-L- +79.00
30.00' RT

-L- +00.00
78.00' RT

INSET A

-EL- PT Sta. 12+85.63
-EL- PC Sta. 13+23.86
-EL- PT Sta. 16+99.09
-EL- PC Sta. 18+95.80
N 10° 20' 51.3" E
N 9° 52' 11.4" E
-EL- NC 561
MATCHLINE -EL- 19+25

-EL- +21.00
76.00' RT
-EL- +59.66
EXIST R/W
-EL- +59.35
76.00' RT
-EL- +80.97
TIE TO EXIST R/W

ANDESEN,LLC
DB 2181 PG 87
PC 6 SLIDE 74-N

-EL-

PI Sta 11+42.85	PI Sta 15+11.48	PI Sta 20+22.07
Δ = 3° 05' 16.3" (LT)	Δ = 0° 28' 40.0" (LT)	Δ = 0° 14' 58.1" (LT)
D = 1° 04' 51.8"	D = 0° 07' 38.4"	D = 0° 05' 55.6"
L = 285.63'	L = 375.24'	L = 252.54'
T = 142.85'	T = 187.62'	T = 126.27'
R = 5,300.00'	R = 45,000.00'	R = 58,000.00'

IMPACTS LEGEND

- F F — DENOTES EXCAVATION IN WETLAND
- HC HC — DENOTES HAND CLEARING
- F F — DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- T — DENOTES TEMPORARY FILL IN WETLAND

DETAIL 1
TOE PROTECTION
(Not to Scale)

3:1 or Flatter Fill Slope; Natural Ground; d = 1 ft.; Geotextile

Type of Liner = CLASS B RIPRAP EST 610 TONS
EST 1350 SY GT

FROM -L- STA. 10+04.25 TO STA. 14+80.00 RT
FROM -L- STA. 16+45.00 TO STA. 19+66.50 RT
FROM -L- STA. 10+16.00 TO STA. 14+78.00 LT
FROM -L- STA. 16+52.00 TO STA. 19+70.00 LT

FOR -L PROFLE SEE SHEET 5
FOR -DET- SEE SHEET 4A
FOR STRUCTURE PLANS, SEE SHEETS S-1 THRU S-2

BRIDGE APPROACH SLAB

STRUCTURE EXCAVATION

Submitted 4/23/2020

PROJECT REFERENCE NO.	SHEET NO.
B-5662	PRM-3
R/W SHEET NO.	

PERMIT DRAWING
SHEET 3 OF 16

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 036853 ENGINEER BRYAN E. HOSH

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 033860 ENGINEER LEAH N. YOUNG

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REVISIONS
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4/1/2020
M:\2018\25\80194521 B-5662\Hydraulics\PERMITS\Environmental\Drawings Wetland\B-5662_prm_psh_03.dgn
Elizabeth.Sheldon

NAD 83/NA 2011

INSET B

INSET D

SITE 1

SITE 1

SITE 1

SITE 1

SITE 1

SAG 10+90.00
-.3000% | +0.5097%

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MATCHLINE -EL- 19+25 - SEE INSET A

NC 561

N 9° 37' 13.3" E

-EL- STA. 19+79.22

BEGIN APPROACH SLAB
-L- STA. 14+91.83
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END APPROACH SLAB
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END BRIDGE
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TOE PROTECTION
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(STRUCTURES PAY ITEM)

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EST 5 SY GT

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TOE ELEV. 43.3'
STA. +39
(STRUCTURES PAY ITEM)

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TOE ELEV. 43.3'
STA. +83
(STRUCTURES PAY ITEM)

CONOCONNARA SWAMP

RETAIN

TUE

PUE

LLOYD C. MANLEY
DB 1561 PG 178

FRED L. NEVILLE
DB 792 PG 211
PB 14 PG 86

ELEANOR HOLLEY
DB 1793 PG 441
PB 6 PG 40-D

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DB 1793 PG 441-5a
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ANDESEN, LLC
DB 2181 PG 87
PC 6 SLIDE 74-N

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-EL- PC Sta. 13+23.86
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-EL- NC 561
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N 9° 52' 11.4" E
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76.00' RT

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-EL-

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HC HC	DENOTES HAND CLEARING
F F	DENOTES FILL IN WETLAND
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TOE PROTECTION
(Not to Scale)

3:1 or Flatter Fill Slope
Natural Ground
d = 1 ft.
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Type of Liner = CLASS B RIPRAP EST 610 TONS
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FOR -DET- SEE SHEET 4A
FOR STRUCTURE PLANS, SEE SHEETS S-1 THRU S-2

BRIDGE APPROACH SLAB

STRUCTURE EXCAVATION

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-5662	PRM-4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 4 OF 16

NAD 83/NA 2011

IMPACTS LEGEND

- E E — DENOTES EXCAVATION IN WETLAND
- HC HC — DENOTES HAND CLEARING
- F F — DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
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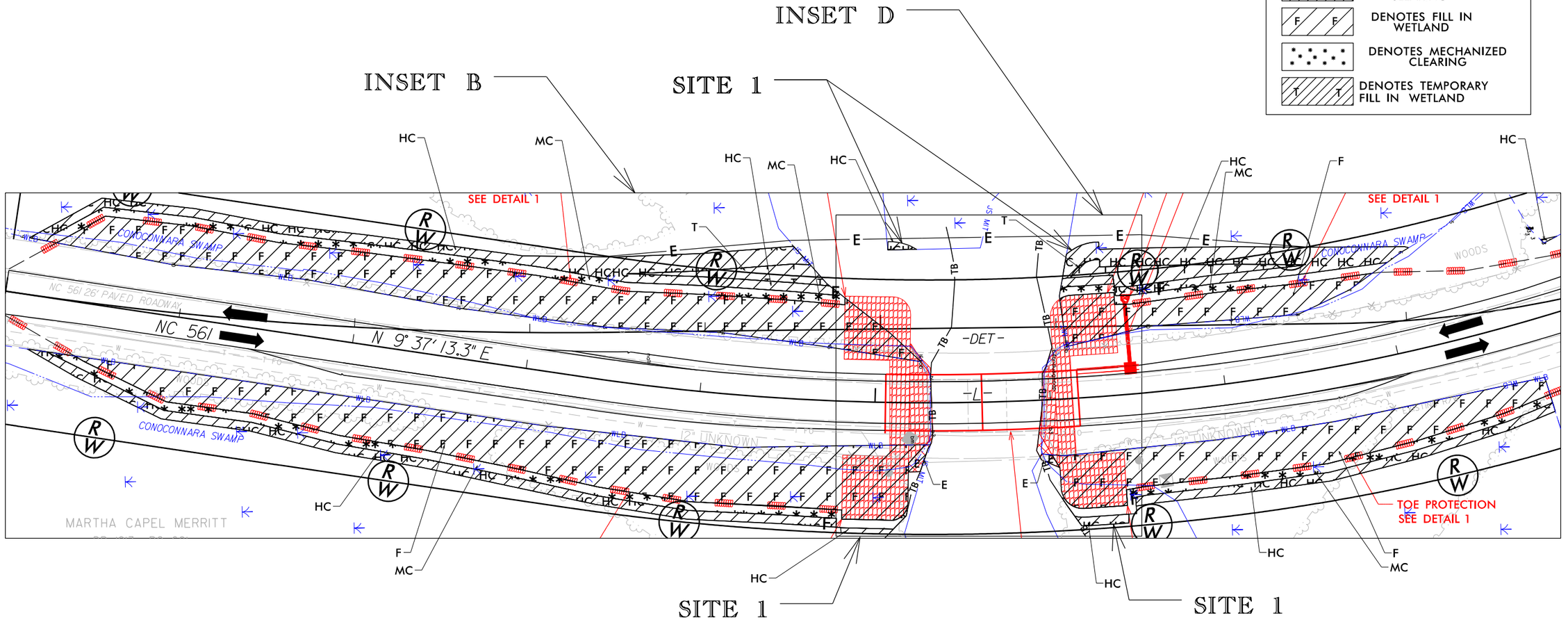


100' 0' 100' 200' 300'

GRAPHIC SCALE

4/1/2020
M:\2018\25180194S.21 B-5662\Hydraulics\PERMITS_Environmental\Drawings Wetland\B-5662_prm_psh_04.dgn
Elizabeth Sheldon

Submitted 4/23/2020

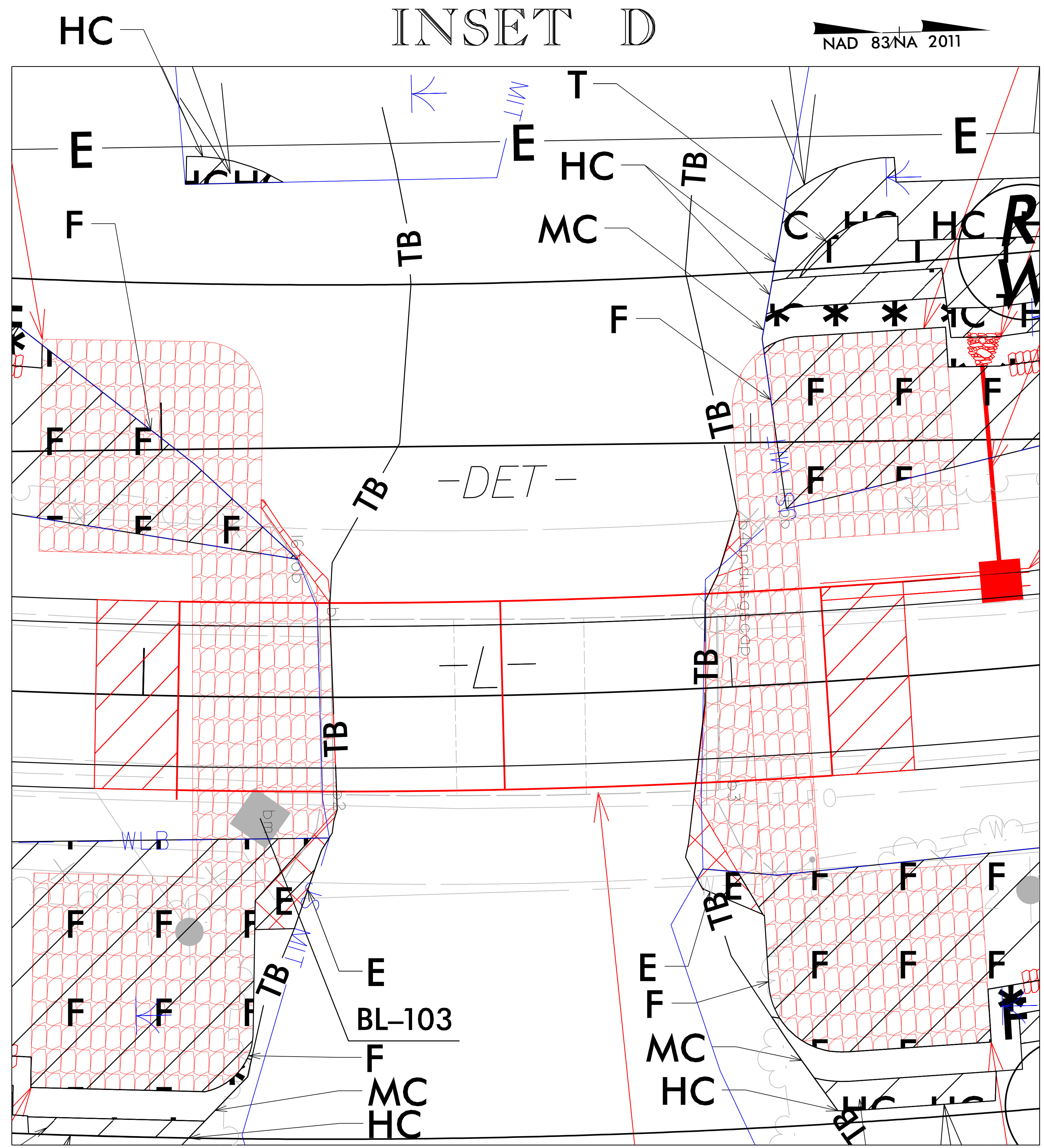
PROJECT REFERENCE NO.	SHEET NO.
B-5662	PRM-5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

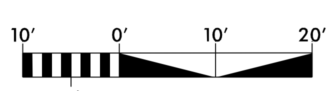
KCI http://www.kci.com
Engineers • Planners • Scientists • Construction Managers
4505 Falls of Neuse Road, Suite 400
Raleigh, NC 27609
Phone (919) 783-9214 • Fax (919) 783-9266

PERMIT DRAWING
SHEET 5 OF 16

INSET D

NAD 83/NA 2011





IMPACTS LEGEND

- DENOTES EXCAVATION IN WETLAND (E)
- DENOTES HAND CLEARING (HC)
- DENOTES FILL IN WETLAND (F)
- DENOTES MECHANIZED CLEARING
- DENOTES TEMPORARY FILL IN WETLAND (T)

8/17/99
4/1/2020
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Elizabeth.Sheldon

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PROJECT REFERENCE NO.	SHEET NO.
B-5662	PRM-6

R/W SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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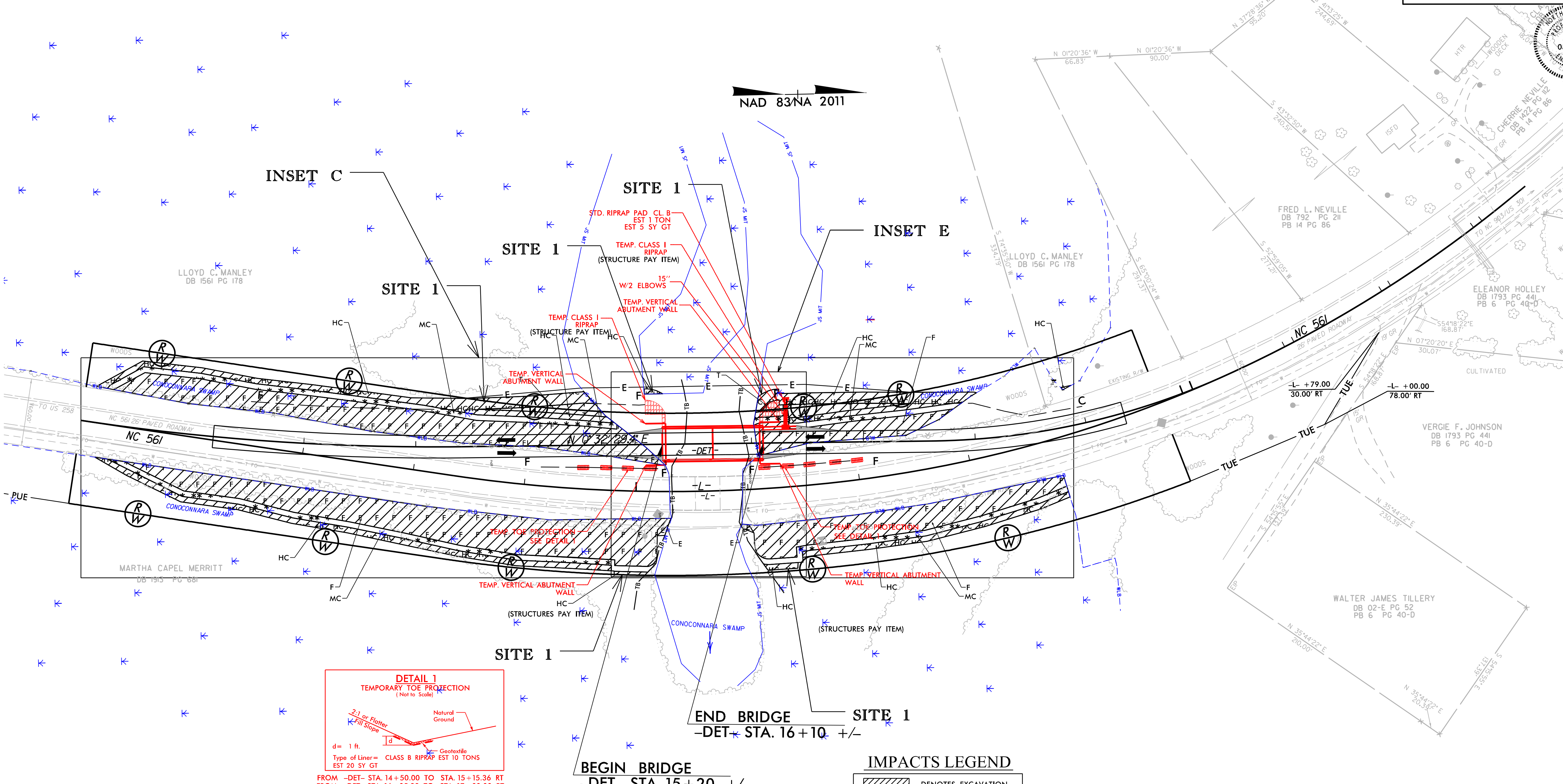
PERMIT DRAWING SHEET 6 OF 16

REVISIONS

8/17/99



IMPACTS LEGEND

- DENOTES EXCAVATION IN WETLAND
- DENOTES HAND CLEARING
- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES TEMPORARY FILL IN WETLAND

FOR -DET- PROFLE SEE SHEET 5A
FOR -L- DESIGN SEE SHEET 4

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PROJECT REFERENCE NO.	SHEET NO.
B-5662	PRM-7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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NAD 83/NA 2011

INSET C

INSET E

SITE 1

SITE 1

SITE 1

SITE 1

SITE 1

STD. RIPRAP PAD CL B
EST 1 TON
EST 5 SY GT

TEMP. CLASS I RIPRAP
(STRUCTURE PAY ITEM)

15" W/2 ELBOWS

TEMP. VERTICAL ABUTMENT WALL

TEMP. CLASS I RIPRAP
(STRUCTURE PAY ITEM)

TEMP. VERTICAL ABUTMENT WALL

TEMP. VERTICAL ABUTMENT WALL
(STRUCTURES PAY ITEM)

TEMP. TOE PROTECTION SEE DETAIL 1

TEMP. TOE PROTECTION SEE DETAIL 1

TEMP. VERTICAL ABUTMENT WALL

(STRUCTURES PAY ITEM)

NC 561

N 0°32'20"E

-DET-

-L-

-L- +79.00
30.00' RT

-L- +00.00
78.00' RT

TUE

PUE

CONOCONNARA SWAMP

LLOYD C. MANLEY
DB 1561 PG 178

MARTHA CAPEL MERRITT
DB 195 PG 681

FRED L. NEVILLE
DB 792 PG 211
PB 14 PG 86

CHERRIE NEVILLE
DB 1424 PG 43
PB 14 PG 86

ELEANOR HOLLEY
DB 1793 PG 141
PB 6 PG 40-D

VERGIE F. JOHNSON
DB 1793 PG 141
PB 6 PG 40-D

WALTER JAMES TILLERY
DB 02-E PG 52
PB 6 PG 40-D

DETAIL 1
TEMPORARY TOE PROTECTION
(Not to Scale)

2:1 or Flatter Fill Slope

Natural Ground

d

d = 1 ft.

Geotextile

Type of Liner = CLASS B RIPRAP EST 10 TONS
EST 20 SY GT

FROM -DET- STA. 14+50.00 TO STA. 15+15.36 RT
FROM -DET- STA. 16+05.38 TO STA. 17+00.00 RT

BEGIN BRIDGE
-DET- STA. 15+20 +/-

END BRIDGE
-DET- STA. 16+10 +/-

IMPACTS LEGEND

E E	DENOTES EXCAVATION IN WETLAND
HC HC	DENOTES HAND CLEARING
F F	DENOTES FILL IN WETLAND
	DENOTES MECHANIZED CLEARING
T	DENOTES TEMPORARY FILL IN WETLAND

FOR -DET- PROFLE SEE SHEET 5A
FOR -L- DESIGN SEE SHEET 4

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PROJECT REFERENCE NO.	SHEET NO.
B-5662	PRM-8

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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PERMIT DRAWING
SHEET 8 OF 16

NAD 83/NA 2011

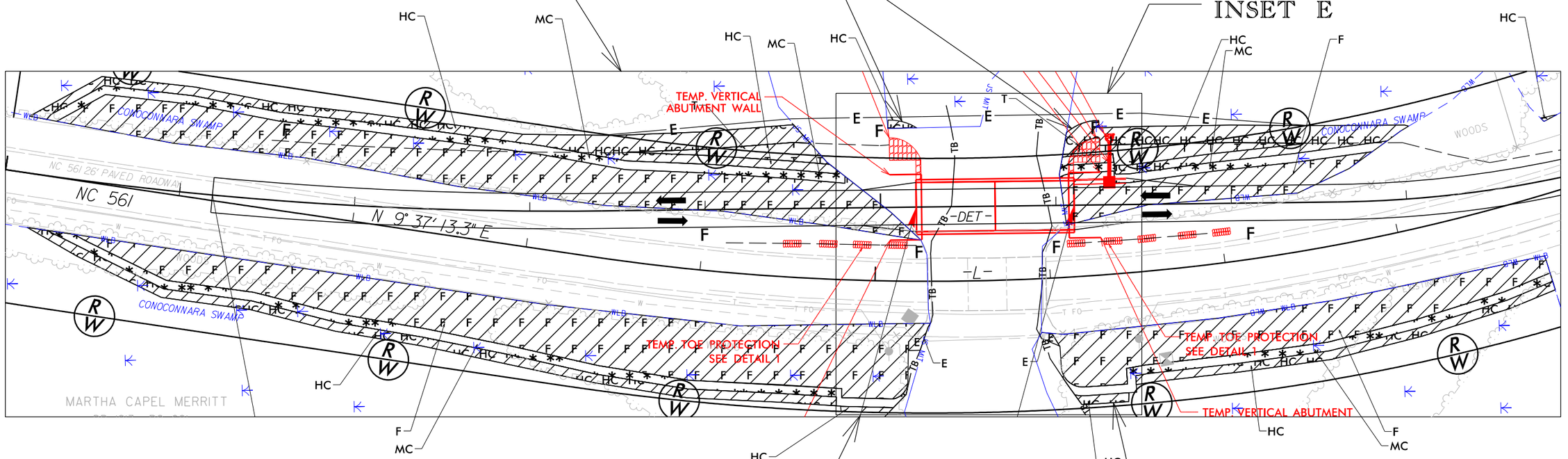
IMPACTS LEGEND

- E E — DENOTES EXCAVATION IN WETLAND
- HC HC — DENOTES HAND CLEARING
- F F — DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- T T — DENOTES TEMPORARY FILL IN WETLAND

INSET C

SITE 1

INSET E



100' 0' 100' 200' 300'

GRAPHIC SCALE

4/1/2020
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INSET E

NAD 83/NA 2011

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SHEET 9 OF 16

PROJECT REFERENCE NO.	SHEET NO.
B-5662	PRM-9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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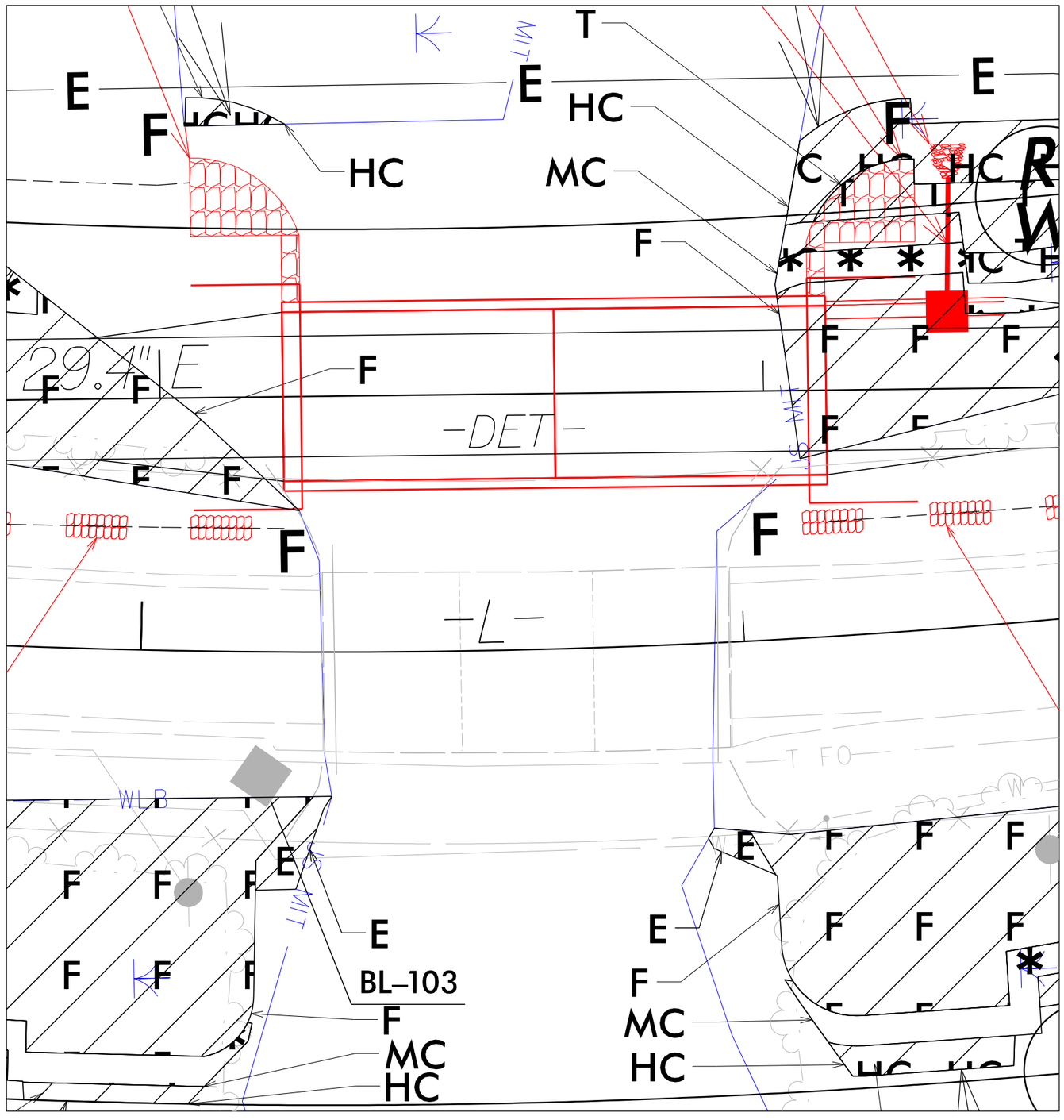

IMPACTS LEGEND

- DENOTES EXCAVATION IN WETLAND
- DENOTES HAND CLEARING
- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES TEMPORARY FILL IN WETLAND

10′ 0′ 10′ 20′
5′

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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-5662	PRM-10

PERMIT DRAWING
SHEET 10 OF 16

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 036853 ENGINEER BRYAN E. HOLCH

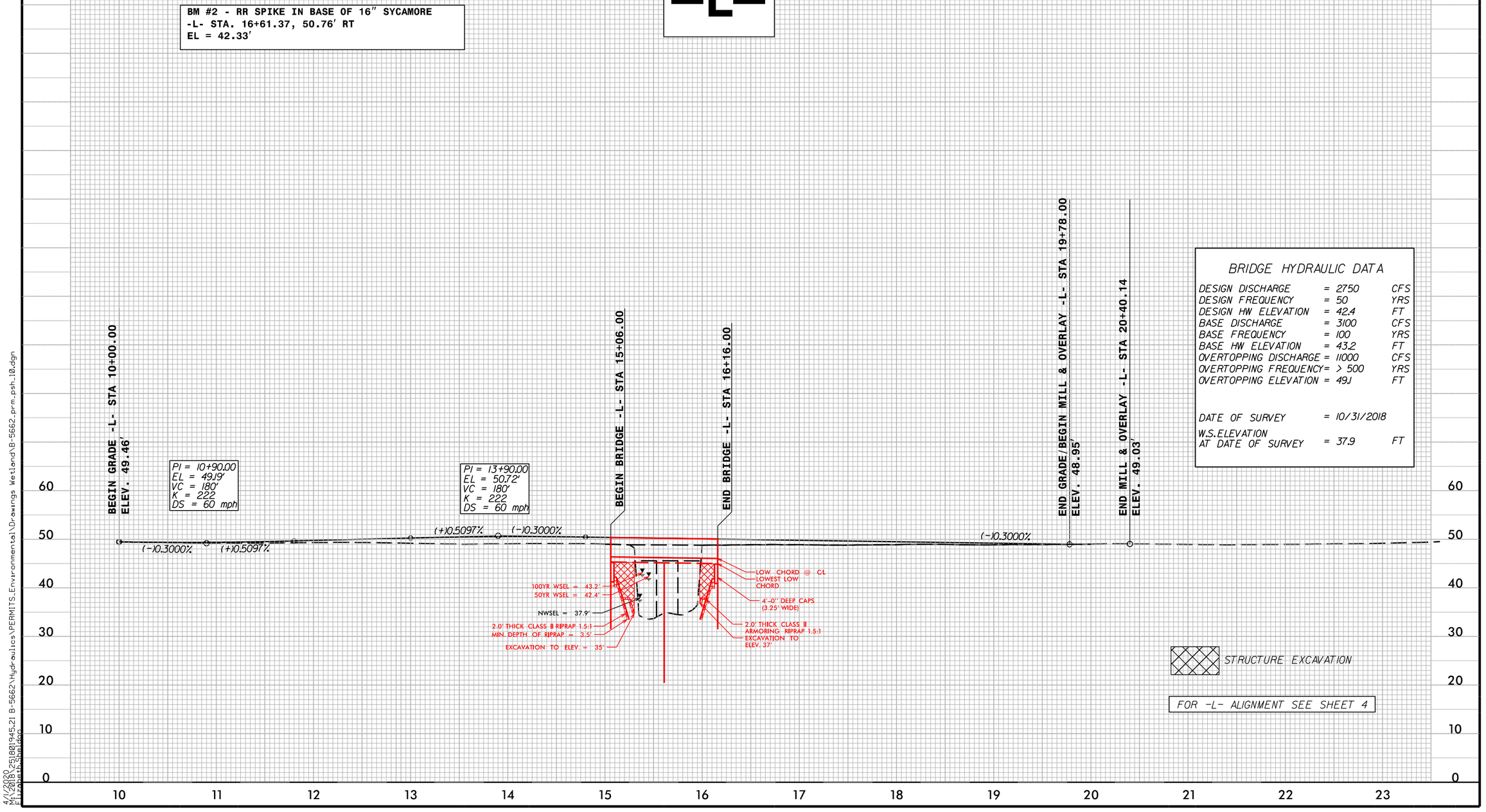
HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 033860 ENGINEER SEAN M. YOUNG

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

BM #2 - RR SPIKE IN BASE OF 16" SYCAMORE
-L- STA. 16+61.37, 50.76' RT
EL = 42.33'

-L-



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 2750	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 42.4	FT
BASE DISCHARGE	= 3100	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 43.2	FT
OVERTOPPING DISCHARGE	= 11000	CFS
OVERTOPPING FREQUENCY	= > 500	YRS
OVERTOPPING ELEVATION	= 49.1	FT
DATE OF SURVEY	= 10/31/2018	
W.S.ELEVATION AT DATE OF SURVEY	= 37.9	FT

STRUCTURE EXCAVATION

FOR -L- ALIGNMENT SEE SHEET 4

4/1/2020
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5/14/99

PERMIT DRAWING
SHEET 11 OF 16

PROJECT REFERENCE NO.	SHEET NO.
B-5662	PRM-11

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 036853 ENGINEER BRYAN E. HOGH

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 033860 ENGINEER SEAN W. YOUNG

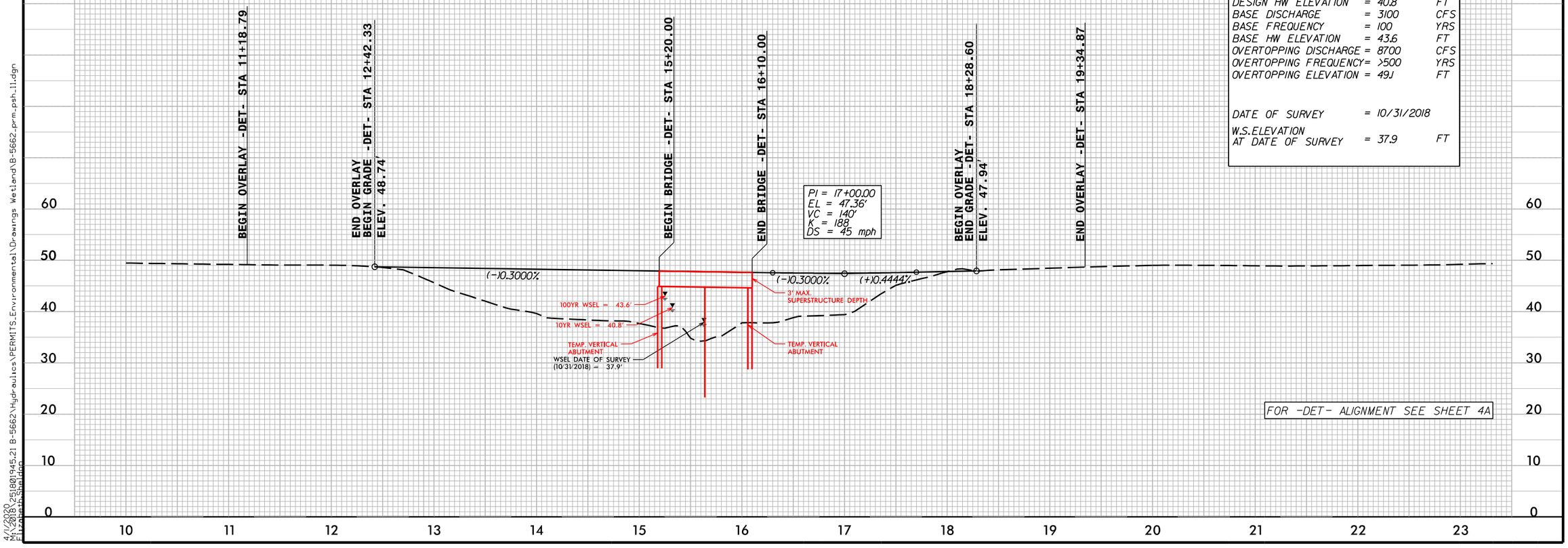
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-DET-

BM #2 - RR SPIKE IN BASE OF 16" SYCAMORE
-L- STA. 16+61.37, 50.76' RT
EL = 42.33'

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 1540	CFS
DESIGN FREQUENCY	= 10	YRS
DESIGN HW ELEVATION	= 40.8	FT
BASE DISCHARGE	= 3100	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 43.6	FT
OVERTOPPING DISCHARGE	= 8700	CFS
OVERTOPPING FREQUENCY	= >500	YRS
OVERTOPPING ELEVATION	= 49.1	FT
DATE OF SURVEY	= 10/31/2018	
W.S.ELEVATION AT DATE OF SURVEY	= 37.9	FT



FOR -DET- ALIGNMENT SEE SHEET 4A

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Submitted 4/23/2020

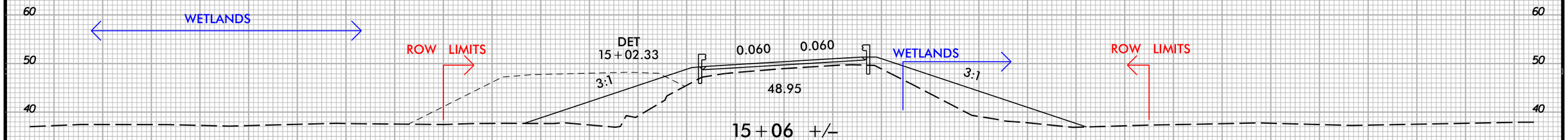
6/23/16

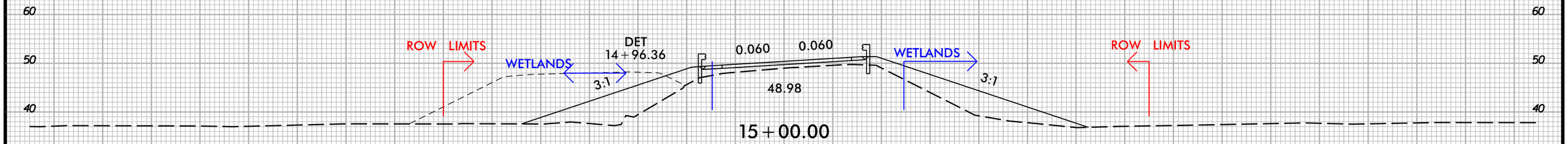
0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	B-5662	X-4

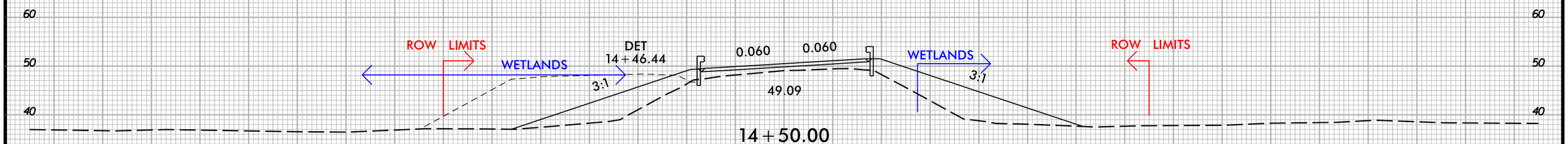
PERMIT DRAWING
SHEET 12 OF 16

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

BEGIN BRIDGE -L- STA.15+06 +/-







-L-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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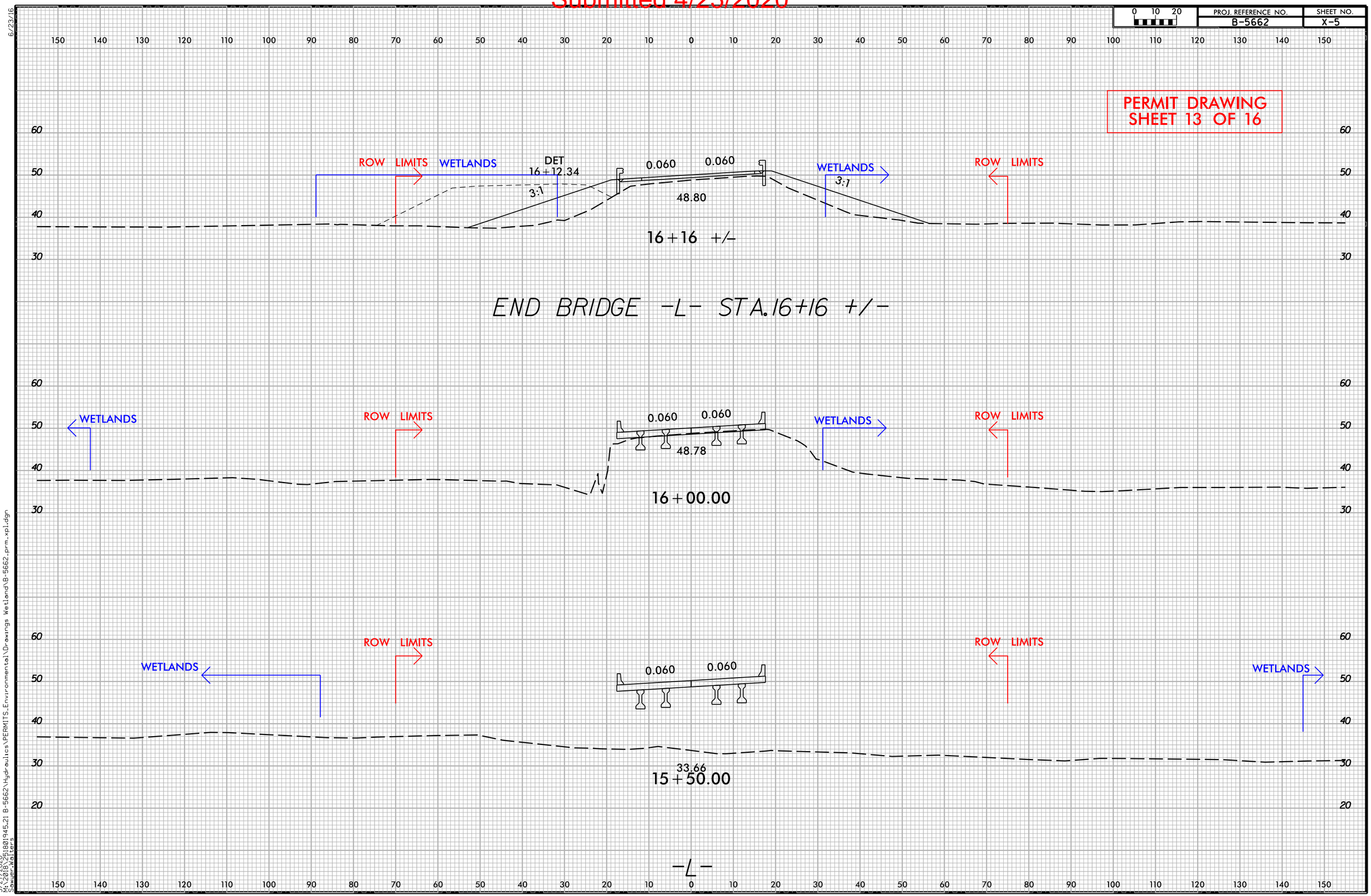
0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	B-5662	X-5

PERMIT DRAWING
SHEET 13 OF 16



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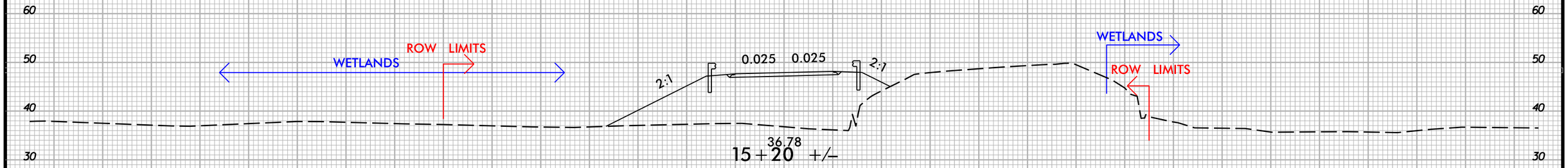
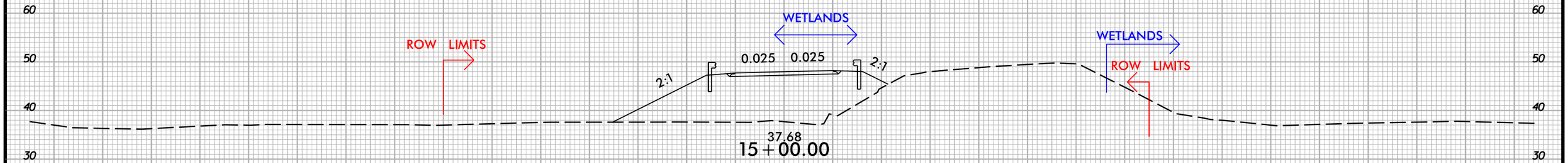
0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	B-5662	X-12

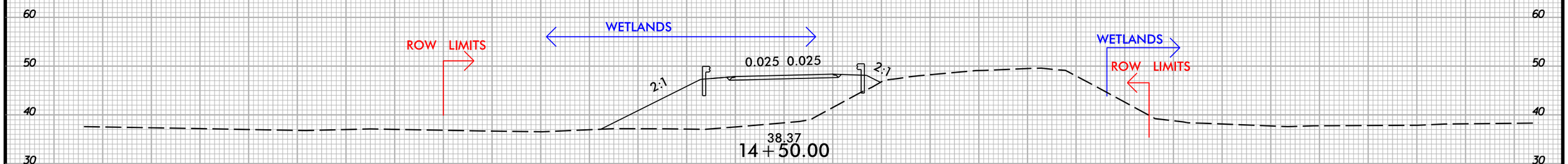
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

PERMIT DRAWING
SHEET 14 OF 16

BEGIN BRIDGE -DET- 15+20 +/-







-DET-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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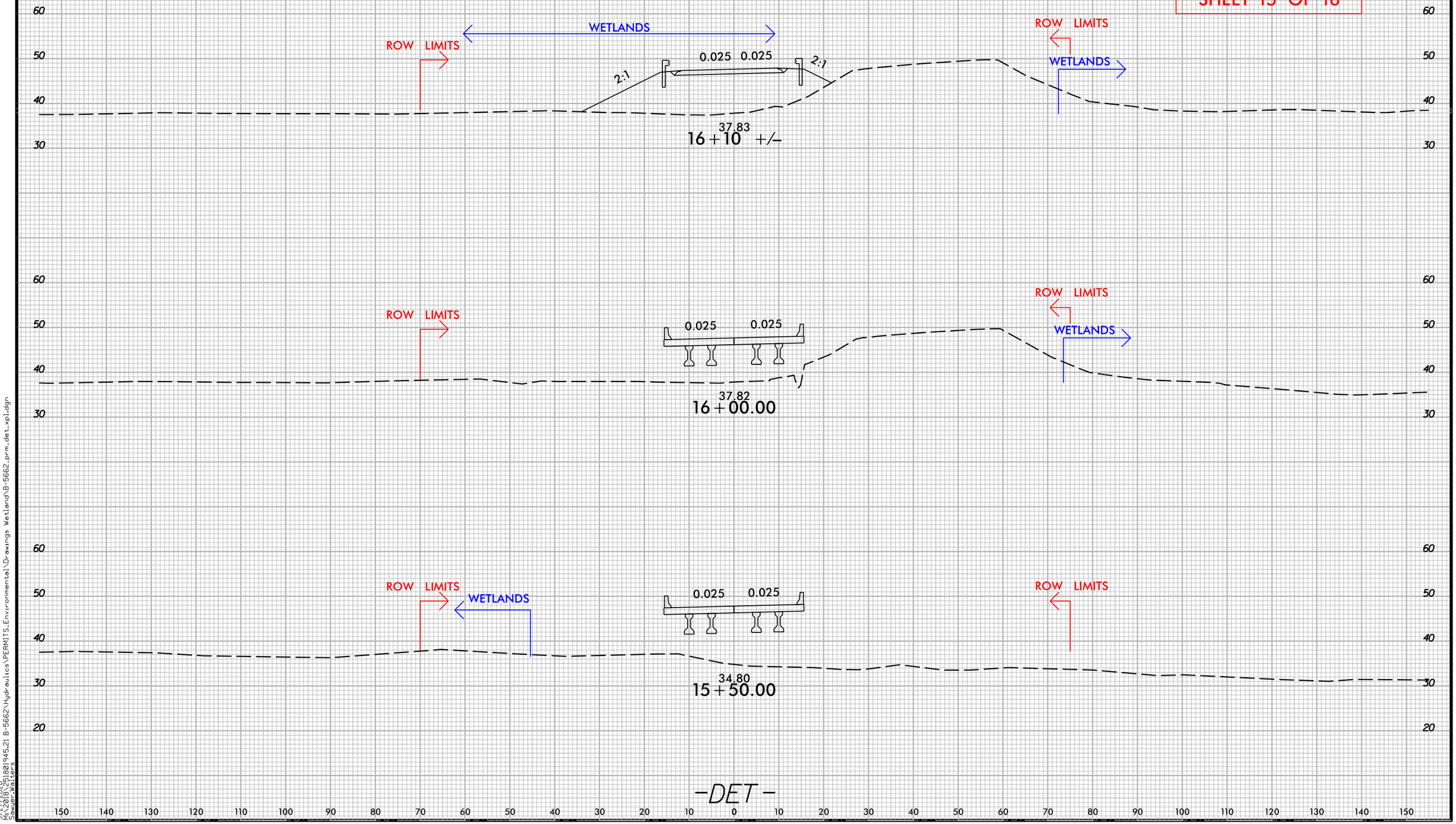
0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	B-5662	X-13

END BRIDGE -DET- STA. 16+10 +/-

PERMIT DRAWING
SHEET 15 OF 16



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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	-L- STA 10+25 TO	FILL FOR ROADWAY	0.526									
	-L- STA 15+29 CL											
1	-L- STA 15+99 TO	FILL FOR ROADWAY	0.206									
	-L- STA 18+77 CL											
1	-L- STA 15+19 TO	EXCAVATION UNDER			0.002							
	-L- STA 15+32 CL	PROPOSED BRIDGE										
1	-L- STA 15+93 TO	EXCAVATION UNDER			0.001							
	-L- STA 16+03 CL	PROPOSED BRIDGE										
1	-L- STA 13+50 TO	TEMPORARY DETOUR		0.014								
	-L- STA 14+72 LT											
1	-L- STA 16+14 TO	TEMPORARY DETOUR		0.020								
	-L- STA 17+57 LT											
1	-L- STA 10+19 TO	MECHANIZED CLEARING				0.109						
	-L- STA 15+19 CL	FOR FILL IN WETLANDS										
1	-L- STA 16+08 TO	MECHANIZED CLEARING				0.055						
	-L- STA 18+77 CL	FOR FILL IN WETLANDS										
1	-L- STA 10+09 TO	TEMPORARY DETOUR					0.140					
	-L- STA 15+23 CL											
1	-L- STA 16+09 TO	TEMPORARY DETOUR					0.087					
	-L- STA 18+77 CL											
TOTALS*:			**0.732**	**0.033**	**0.003**	**0.164**	**0.227**	**0.000**	**0.000**	**0**	**0**	**0**

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
4/23/2020
HALIFAX
B-5662
45617.1.1
SHEET 16 OF 16

Revised 2018 Feb