



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

DANIEL H. JOHNSON
SECRETARY

June 29, 2026

U.S. Army Corps of Engineers
Washington Regulatory Field Office
ATTN: Kyle Barnes
2407 West Fifth Street
Washington, NC 27889

Subject: Preliminary Jurisdictional Determination (PJD) Package for the proposed US 64 wildlife crossings grant project along US 64 from east of East Lake Community to west of Robertson Landing Road (SR 1169) (STIP HO-0027) in Dare County, North Carolina.

The North Carolina Department of Transportation (NCDOT) respectfully requests concurrence with the attached request for Preliminary Jurisdictional Determination (PJD) associated with the proposed US 64 wildlife crossings grant project along US 64 from east of East Lake Community to west of Robertson Landing Road (SR 1169) (STIP No. HO-0027). Three Oaks Engineering, Inc. (Three Oaks) is under contract with NCDOT to provide natural resource inventories, jurisdictional assessments, and reporting for this project. The proposed project is located in Alligator River National Wildlife Refuge near the East Lake Community, in Dare County, NC. The project is located in the Albemarle Subbasin of the Pasquotank River Basin (United States Geological Survey [USGS] Hydrologic Unit Code [HUC] 03010205). Three Oaks staff delineated potential aquatic resources within the study area on April 6-8 and 15-16, 2026. A total of 25 wetlands, and 27 jurisdictional ditches were identified within the study area. We have attached the following information to assist with your review:

- Appendix A: JD Forms
 - Request for Jurisdictional Determination (ENG 6247)
 - Preliminary Jurisdictional Determination Form (ENG 6249)
 - ORM Waters Upload Spreadsheet
- Appendix B: Figures
 - 1. Vicinity Map
 - 2. Potential Aquatic Resources– USGS Topographic Map
 - 3. Potential Aquatic Resources – Aerial Map
 - 4. LiDAR Map
 - 5. NRCS Soil Survey Map (1992 Dare County)
 - 6. Flag Locations Map
- Appendix C: Wetland Forms
 - USACE Wetland and Upland Data Forms for all wetlands
 - NCWAM forms for all wetlands
- Appendix D: Site Photographs

- Appendix E: Antecedent Precipitation Tool Output
- Appendix F: Landowner Notification Letter
- Appendix G: Observed Surface Water Connectivity Table

Three Oaks is submitting this request on behalf of NCDOT. If you have any questions, require additional information, or would like to schedule a site visit, please contact me by phone at (717) 319-9155 or email at trevor.hall@threeoaksengineering.com. We appreciate your assistance with this project.

Sincerely,

A handwritten signature in dark ink, appearing to read "Trevor Hall", with a stylized, cursive script.

Trevor Hall, PWS
Three Oaks Engineering
Environmental Scientist III

On behalf of,

Jason Dilday
North Carolina Department of Transportation
Environmental Compliance and Permitting (ECAP)
ECAP Eastern Regional Team Lead

Cc: Paul Nyarko, NCDWR
Lee Cannady, NCDCM

Appendix A

JD Request Form (ENG 6247)
PJD Form (ENG 6249)
ORM Waters Upload Sheet

U.S. Army Corps of Engineers (USACE)
REQUEST FOR JURISDICTIONAL DETERMINATION (JD)

For use of this form, see Sec 404 CWA, Sec 10 RHA, Sec 103 MPRSA; the proponent agency is CECW-COR.

Form Approved -
OMB No. 0710-0024
Expires 2027-09-30

DATA REQUIRED BY THE PRIVACY ACT OF 1974

Authority Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332.

Principal Purpose The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the review area that are or that may be subject to federal jurisdiction under the regulatory authorities referenced above.

Routine Uses This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice or FOIA request as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in any approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.

Disclosure Submission of requested information is voluntary, however, if the information is not provided there may be some delay in processing your request. Failure to provide this information will not result in an adverse action.
System of Record Notice (SORN): The information received is entered into our permit tracking database and a SORN has been completed (SORN #A1145b) and may be accessed at the following website:
<http://dpcl.dod.mil/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ce.aspx>

The Agency Disclosure Notice (ADN)

The Public reporting burden for this collection of information, 0710-0024, is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. To (District Name): USACE Raleigh Regulatory Field Office (Wilmington Office)

2. I am requesting a JD on property located at (Street Address): Multiple Parcels and Addresses

City/Township/Parish: East Lake

County: Dare

State: North Carolina

Acreage of Parcel/Review Area for JD: 425.8

Section: N/A

Township: N/A

Range: N/A

Latitude (decimal degrees): 35.868026 °

Longitude (decimal degrees): -75.918575 °

(For linear projects, please include the center point of the proposed alignment.)

3. Please attach a survey/plat map and vicinity map identifying location and review area for the JD.

4. ☐ I currently own this property.

☐ I plan to purchase this property.

☒ I am an agent/consultant acting on behalf of the requester.

☒ Other (provide explanation):

NCDOT Project

5. Reason for request: (check as many as applicable)

- ☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all aquatic resources.
- ☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all jurisdictional aquatic resources under Corps authority.
- ☒ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.
- ☐ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps; this request is accompanied by my permit application and the JD is to be used in the permitting process.
- ☐ I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district Section 10 list and/or is subject to the ebb and flow of the tide.
- ☐ A Corps JD is required in order to obtain my local/state authorization.
- ☐ I intend to contest jurisdiction over a particular aquatic resource and request the Corps confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.
- ☐ I believe that the site may be comprised entirely of dry land.
- ☐ Other (provide details below):

6. Type of determination being requested:

- ☐ I am requesting an approved JD.
- ☒ I am requesting a preliminary JD.
- ☐ I am requesting a "no permit required" letter as I believe my proposed activity is not regulated.
- ☐ I am requesting a verification of an aquatic resources delineation but I am not requesting a JD.
- ☐ I am unclear as to which JD I would like to request and require additional information to inform my decision.

7. Typed or Printed Name: Trevor Hall, PWS on Behalf of Jason Dilday Daytime Phone No.: (717)319-9155

Company Name: Three Oaks Engineering on Behalf of NCDOT ECAP Email Address: trevor.hall@threeoaksengineering.com

Address: 324 Blackwell Street, Suite 1200
Durham, NC 27701

By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the site if needed to perform the JD. Your signature shall be an affirmation that you possess the requisite property rights to request a JD on the subject property.

Signature: **Trevor Hall**

 Digitally signed by Trevor Hall
Date: 2026.05.02 18:05:25 -04'00'

Date: 2026-05-02

U.S. Army Corps of Engineers (USACE)
PRELIMINARY JURISDICTIONAL DETERMINATION (PJD)

For use of this form, see Sec 404 CWA, Sec 10 RHA, Sec 103 MPRSA;
the proponent agency is CECW-COR.

Form Approved -
OMB No. 0710-0024
Expires 2027-09-30

DATA REQUIRED BY THE PRIVACY ACT OF 1974

Authority Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.

Principal Purpose This form is used by USACE staff in evaluating your request to determine whether there are any aquatic resources within the review area that may be subject to federal jurisdiction under the regulatory authorities referenced above.

Routine Uses This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice or FOIA request as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in any resulting jurisdictional determination (JD), which may be made available to the public on the District's website and/or on the Headquarters USACE website.

Disclosure Submission of requested information is voluntary; however, if information is not provided, the request for a JD cannot be evaluated nor can a PJD be issued.

The Agency Disclosure Notice (ADN)

The public reporting burden for this collection of information, 0710-0024, is estimated to average 25 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

SECTION I - BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD:

B. NAME AND ADDRESS OF PERSON REQUESTING PJD:

Trevor Hall, PWS, Three Oaks Engineering on Behalf of Jason Dilday, NCDOT ECAP
324 Blackwell Street, Suite 1200, Durham, NC 27701

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

D. PROJECT LOCATION AND BACKGROUND INFORMATION:

(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: North Carolina County/Parish/Borough: Dare City: East Lake

Center coordinates of site (lat/long in degree decimal format): Latitude: 35.86802 ° Longitude: -75.91857 °

Universal Transverse Mercator: 18

Name of nearest waterbody: Alligator River (South Lake)

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)
	WA	35.873054	-75.893224	5.83 acres	Wetland	Section 404

	Site Number	Latitude (<i>decimal degrees</i>)	Longitude (<i>decimal degrees</i>)	Estimated amount of aquatic resource in review area (<i>acreage and linear feet, if applicable</i>)	Type of aquatic resource (<i>i.e., wetland vs. non-wetland waters</i>)	Geographic authority to which the aquatic resource "may be" subject (<i>i.e., Section 404 or Section 10/404</i>)
	WB	35.873103	-75.892681	0.50 acre	Wetland	Section 404
	WC	35.872844	-75.893992	48.02 acres	Wetland	Section 404
	WD	35.871270	-75.896279	0.01 acre	Wetland	Section 404
	WE	35.872736	-75.893752	0.01 acre	Wetland	Section 404
	WF	35.873162	-75.893368	0.01 acre	Wetland	Section 404
	WG	35.871550	-75.889825	24.49 acres	Wetland	Section 404
	WH	35.867617	-75.915508	79.76 acres	Wetland	Section 404
	WI	35.875624	-75.934087	16.68 acres	Wetland	Section 404
	WJ	35.881241	-75.946103	33.24 acres	Wetland	Section 404
	WK	35.880381	-75.945918	21.22 acres	Wetland	Section 404
	WL	35.875201	-75.937426	0.05 acre	Wetland	Section 404
	WM	35.875452	-75.937936	0.08 acre	Wetland	Section 404
	WN	35.875280	-75.938142	2.23 acres	Wetland	Section 404
	WO	35.875081	-75.937539	0.14 acre	Wetland	Section 404
	WP	35.872656	-75.930399	17.04 acres	Wetland	Section 404
	WQ	35.871971	-75.931283	0.28 acre	Wetland	Section 404
	WR	35.872184	-75.931170	0.03 acre	Wetland	Section 404
	WS	35.866524	-75.918847	24.36 acres	Wetland	Section 404

	Site Number	Latitude (<i>decimal degrees</i>)	Longitude (<i>decimal degrees</i>)	Estimated amount of aquatic resource in review area (<i>acreage and linear feet, if applicable</i>)	Type of aquatic resource (<i>i.e., wetland vs. non-wetland waters</i>)	Geographic authority to which the aquatic resource "may be" subject (<i>i.e., Section 404 or Section 10/404</i>)
	WT	35.865754	-75.918595	0.58 acre	Wetland	Section 404
	WU	35.865820	-75.917878	0.05 acre	Wetland	Section 404
	WV	35.866572	-75.915112	46.08 acres	Wetland	Section 404
	WW	35.866907	-75.916795	1.21 acres	Wetland	Section 404
	WX	35.870981	-75.892055	10.77 acres	Wetland	Section 404
	WY	35.867022	-75.914225	0.13 acre	Wetland	Section 404
	JDA	35.872141	-75.894761	0.96 acre / 1,082 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDB	35.872593	-75.889722	1.35 acres / 2,336 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDC	35.869536	-75.903483	9.81 acres / 10,207 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDD	35.869881	-75.909526	0.48 acre / 1,192 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDE	35.867567	-75.915917	3.28 acres / 2,999 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDF	35.868718	-75.919192	0.13 acre / 440 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDG	35.872666	-75.927522	0.08 acre / 480 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDH	35.877075	-75.932611	0.07 acre / 277 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDI	35.876515	-75.933578	0.42 acre / 972 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDJ	35.878262	-75.937358	0.49 acre / 1,254 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDK	35.879709	-75.937689	0.43 acre / 1,058 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDL	35.880100	-75.944973	4.72 acres / 9,202 linear feet	Non-wetland jurisdictional ditch	Section 404

	Site Number	Latitude (<i>decimal degrees</i>)	Longitude (<i>decimal degrees</i>)	Estimated amount of aquatic resource in review area (<i>acreage and linear feet, if applicable</i>)	Type of aquatic resource (<i>i.e., wetland vs. non-wetland waters</i>)	Geographic authority to which the aquatic resource "may be" subject (<i>i.e., Section 404 or Section 10/404</i>)
	JDM	35.880778	-75.946381	0.10 acre / 188 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDO	35.875585	-75.938060	0.10 acre / 182 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDP	35.875587	-75.937426	0.40 acre / 733 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDQ	35.874648	-75.938213	0.13 acre / 528 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDR	35.875118	-75.937548	0.01 acre / 166 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDS	35.871128	-75.931051	0.14 acre / 524 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDT	35.872130	-75.930230	0.49 acre / 804 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDU	35.871119	-75.927448	0.04 acre / 340 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDV	35.864027	-75.918018	0.13 acre / 163 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDW	35.864087	-75.917515	0.05 acre / 79 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDX	35.864959	-75.917873	0.28 acre / 522 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDY	35.866345	-75.918372	0.37 acre / 750 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDZ	35.869989	-75.906748	0.08 acre / 547 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDAA	35.870508	-75.922972	0.06 acre / 498 linear feet	Non-wetland jurisdictional ditch	Section 404
	JDAC	35.870449	-75.892791	0.03 acre / 132 linear feet	Non-wetland jurisdictional ditch	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 "preconstruction 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 or no JD whatsoever, which do 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 USACE 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 or reliance on no JD whatsoever; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of USACE permit authorization based on a PJD or no JD whatsoever 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 USACE 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:

F. 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:

☒ Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:

Map: Vicinity Map, Topographic Map, Aerial Map, LiDAR Map, Soil Survey Map

☒ 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 USACE:

☐ 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 2022 Buffalo City and 2022 East Lake, NC

☒ USDA Natural Resources Conservation Service Soil Survey.

Citation: 1992 Dare County Soil Survey

☐ 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)

☒ Photographs: ☒ Aerial (*Name & Date*): NCOneMap Orthoimagery

or ☒ Other (*Name & Date*): Photo Log

☐ 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 USACE and should not be relied upon for later jurisdictional determinations.

Name of Regulatory Staff Member Completing PJD

Date

Signature of Regulatory Staff Member Completing PJD

Name of Person Requesting PJD

Date

Signature of Person Requesting PJD (*REQUIRED, unless obtaining the Signature is Impracticable*)

Trevor Hall, PWS

2026-06-08

Trevor Hall

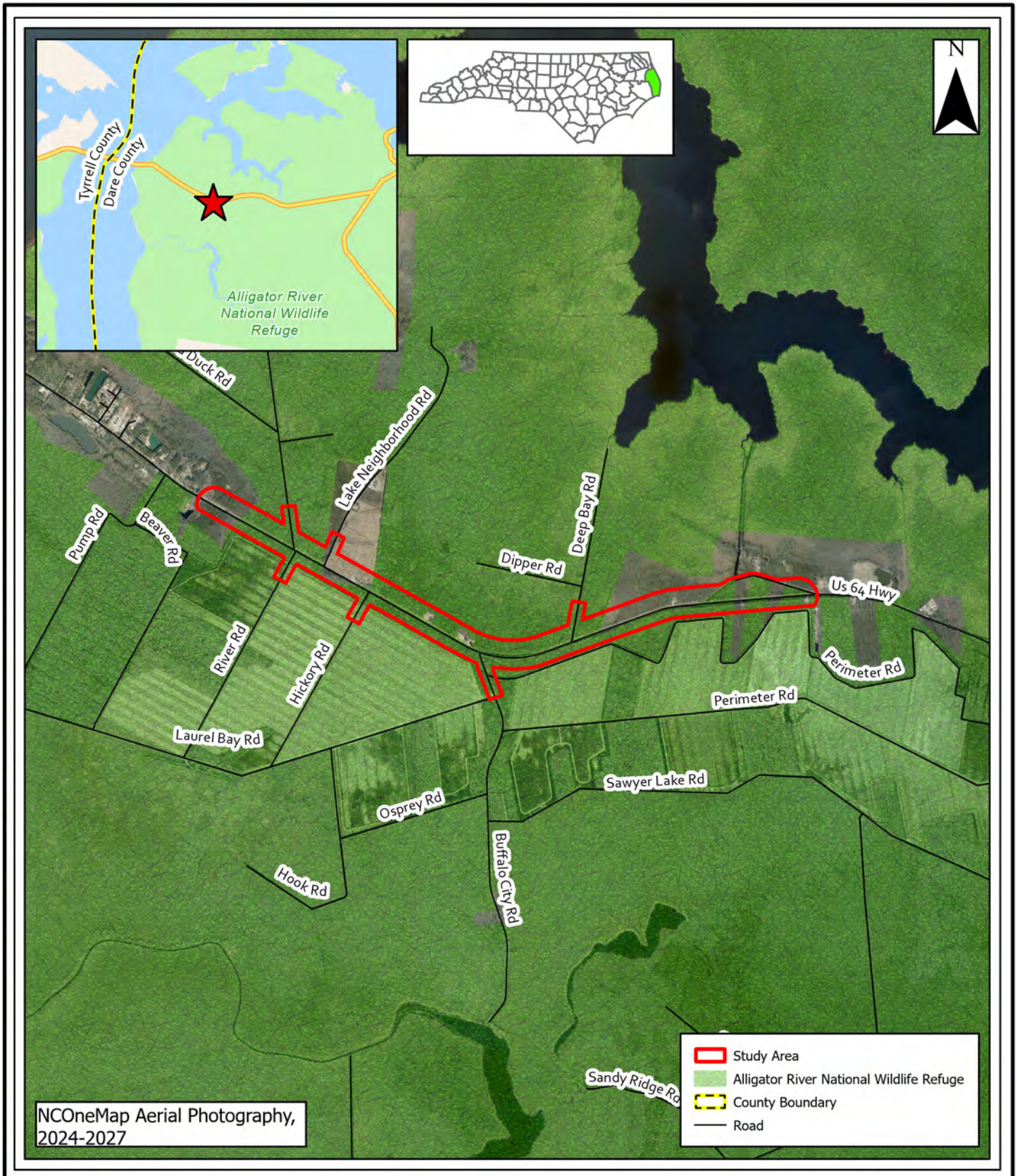
Digitally signed by Trevor Hall
Date: 2026.06.08 17:16:38 -04'00'

¹ Districts may establish timeframes for requester to return signed PJD forms. If the requester 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.

Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude	Local_Waterway
WA	NORTH CAROLINA	PFO	RIVERINE	Area	5.83	ACRE	DELIN.PJD-404	35.87305400	-75.89322400	Alligator River
WB	NORTH CAROLINA	PFO	RIVERINE	Area	0.5	ACRE	DELIN.PJD-404	35.87310300	-75.89268100	Alligator River
WC	NORTH CAROLINA	PFO	RIVERINE	Area	48.02	ACRE	DELIN.PJD-404	35.87284400	-75.89399200	Alligator River
WD	NORTH CAROLINA	PFO	RIVERINE	Area	0.01	ACRE	DELIN.PJD-404	35.87127000	-75.89627900	Alligator River
WE	NORTH CAROLINA	PFO	RIVERINE	Area	0.01	ACRE	DELIN.PJD-404	35.87273600	-75.89375200	Alligator River
WF	NORTH CAROLINA	PFO	RIVERINE	Area	0.01	ACRE	DELIN.PJD-404	35.87316200	-75.89336800	Alligator River
WG	NORTH CAROLINA	PFO	RIVERINE	Area	24.49	ACRE	DELIN.PJD-404	35.87155000	-75.88982500	Alligator River
WH	NORTH CAROLINA	PFO	RIVERINE	Area	79.76	ACRE	DELIN.PJD-404	35.86761700	-75.91550800	Alligator River
WI	NORTH CAROLINA	PFO	RIVERINE	Area	16.68	ACRE	DELIN.PJD-404	35.87562400	-75.93408700	Alligator River
WJ	NORTH CAROLINA	PFO	RIVERINE	Area	33.24	ACRE	DELIN.PJD-404	35.88124100	-75.94610300	Alligator River
WK	NORTH CAROLINA	PFO	RIVERINE	Area	21.22	ACRE	DELIN.PJD-404	35.88038100	-75.94591800	Alligator River
WL	NORTH CAROLINA	PSS	RIVERINE	Area	0.05	ACRE	DELIN.PJD-404	35.87520100	-75.93742600	Alligator River
WM	NORTH CAROLINA	PSS	RIVERINE	Area	0.08	ACRE	DELIN.PJD-404	35.87545200	-75.93793600	Alligator River
WN	NORTH CAROLINA	PEM	RIVERINE	Area	2.23	ACRE	DELIN.PJD-404	35.87528000	-75.93814200	Alligator River
WO	NORTH CAROLINA	PEM	RIVERINE	Area	0.14	ACRE	DELIN.PJD-404	35.87508100	-75.93753900	Alligator River
WP	NORTH CAROLINA	PFO	RIVERINE	Area	17.04	ACRE	DELIN.PJD-404	35.87265600	-75.93039900	Alligator River
WQ	NORTH CAROLINA	PFO	RIVERINE	Area	0.28	ACRE	DELIN.PJD-404	35.87197100	-75.93128300	Alligator River
WR	NORTH CAROLINA	PSS	RIVERINE	Area	0.03	ACRE	DELIN.PJD-404	35.87218400	-75.93117000	Alligator River
WS	NORTH CAROLINA	PFO	RIVERINE	Area	24.36	ACRE	DELIN.PJD-404	35.86652400	-75.91884700	Alligator River
WT	NORTH CAROLINA	PFO	RIVERINE	Area	0.58	ACRE	DELIN.PJD-404	35.86575400	-75.91859500	Alligator River
WU	NORTH CAROLINA	PFO	RIVERINE	Area	0.05	ACRE	DELIN.PJD-404	35.86582000	-75.91787800	Alligator River
WV	NORTH CAROLINA	PFO	RIVERINE	Area	46.08	ACRE	DELIN.PJD-404	35.86657200	-75.91511200	Alligator River
WW	NORTH CAROLINA	PFO	RIVERINE	Area	1.21	ACRE	DELIN.PJD-404	35.86690700	-75.91679500	Alligator River
WX	NORTH CAROLINA	PFO	RIVERINE	Area	10.77	ACRE	DELIN.PJD-404	35.87098100	-75.89205500	Alligator River
WY	NORTH CAROLINA	PEM	RIVERINE	Area	0.13	ACRE	DELIN.PJD-404	35.86702200	-75.91422500	Alligator River
JDA	NORTH CAROLINA	R5UB	RIVERINE	Linear	1082	FOOT	DELIN.PJD-404	35.87214100	-75.89476100	Alligator River
JDB	NORTH CAROLINA	R5UB	RIVERINE	Linear	2336	FOOT	DELIN.PJD-404	35.87259300	-75.88972200	Alligator River
JDC	NORTH CAROLINA	R5UB	RIVERINE	Linear	10207	FOOT	DELIN.PJD-404	35.86953600	-75.90348300	Alligator River
JDD	NORTH CAROLINA	R5UB	RIVERINE	Linear	1192	FOOT	DELIN.PJD-404	35.86988100	-75.90952600	Alligator River
JDE	NORTH CAROLINA	R5UB	RIVERINE	Linear	2999	FOOT	DELIN.PJD-404	35.86756700	-75.91591700	Alligator River
JDF	NORTH CAROLINA	R5UB	RIVERINE	Linear	440	FOOT	DELIN.PJD-404	35.86871800	-75.91919200	Alligator River
JDG	NORTH CAROLINA	R5UB	RIVERINE	Linear	480	FOOT	DELIN.PJD-404	35.87266600	-75.92752200	Alligator River
JDH	NORTH CAROLINA	R5UB	RIVERINE	Linear	277	FOOT	DELIN.PJD-404	35.87707500	-75.93261100	Alligator River
JDI	NORTH CAROLINA	R5UB	RIVERINE	Linear	972	FOOT	DELIN.PJD-404	35.87651500	-75.93357800	Alligator River
JDJ	NORTH CAROLINA	R5UB	RIVERINE	Linear	1254	FOOT	DELIN.PJD-404	35.87826200	-75.93735800	Alligator River
JDK	NORTH CAROLINA	R5UB	RIVERINE	Linear	1058	FOOT	DELIN.PJD-404	35.87970900	-75.93768900	Alligator River
JDL	NORTH CAROLINA	R5UB	RIVERINE	Linear	9202	FOOT	DELIN.PJD-404	35.88010000	-75.94497300	Alligator River
JDM	NORTH CAROLINA	R5UB	RIVERINE	Linear	188	FOOT	DELIN.PJD-404	35.88077800	-75.94638100	Alligator River
JDO	NORTH CAROLINA	R5UB	RIVERINE	Linear	182	FOOT	DELIN.PJD-404	35.87558500	-75.93806000	Alligator River
JDP	NORTH CAROLINA	R5UB	RIVERINE	Linear	733	FOOT	DELIN.PJD-404	35.87558700	-75.93742600	Alligator River
JDQ	NORTH CAROLINA	R5UB	RIVERINE	Linear	528	FOOT	DELIN.PJD-404	35.87464800	-75.93821300	Alligator River
JDR	NORTH CAROLINA	R5UB	RIVERINE	Linear	166	FOOT	DELIN.PJD-404	35.87511800	-75.93754800	Alligator River
JDS	NORTH CAROLINA	R5UB	RIVERINE	Linear	524	FOOT	DELIN.PJD-404	35.87112800	-75.93105100	Alligator River
JDT	NORTH CAROLINA	R5UB	RIVERINE	Linear	804	FOOT	DELIN.PJD-404	35.87213000	-75.93023000	Alligator River
JDU	NORTH CAROLINA	R5UB	RIVERINE	Linear	340	FOOT	DELIN.PJD-404	35.87111900	-75.92744800	Alligator River
JDV	NORTH CAROLINA	R5UB	RIVERINE	Linear	163	FOOT	DELIN.PJD-404	35.86402700	-75.91801800	Alligator River
JDW	NORTH CAROLINA	R5UB	RIVERINE	Linear	79	FOOT	DELIN.PJD-404	35.86408700	-75.91751500	Alligator River
JDX	NORTH CAROLINA	R5UB	RIVERINE	Linear	522	FOOT	DELIN.PJD-404	35.86495900	-75.91787300	Alligator River
JDY	NORTH CAROLINA	R5UB	RIVERINE	Linear	750	FOOT	DELIN.PJD-404	35.86634500	-75.91837200	Alligator River
JDZ	NORTH CAROLINA	R5UB	RIVERINE	Linear	547	FOOT	DELIN.PJD-404	35.86998900	-75.90674800	Alligator River
JDAA	NORTH CAROLINA	R5UB	RIVERINE	Linear	498	FOOT	DELIN.PJD-404	35.87050800	-75.92297200	Alligator River
JDAC	NORTH CAROLINA	R5UB	RIVERINE	Linear	132	FOOT	DELIN.PJD-404	35.87044900	-75.89279100	Alligator River

Appendix B

Figures

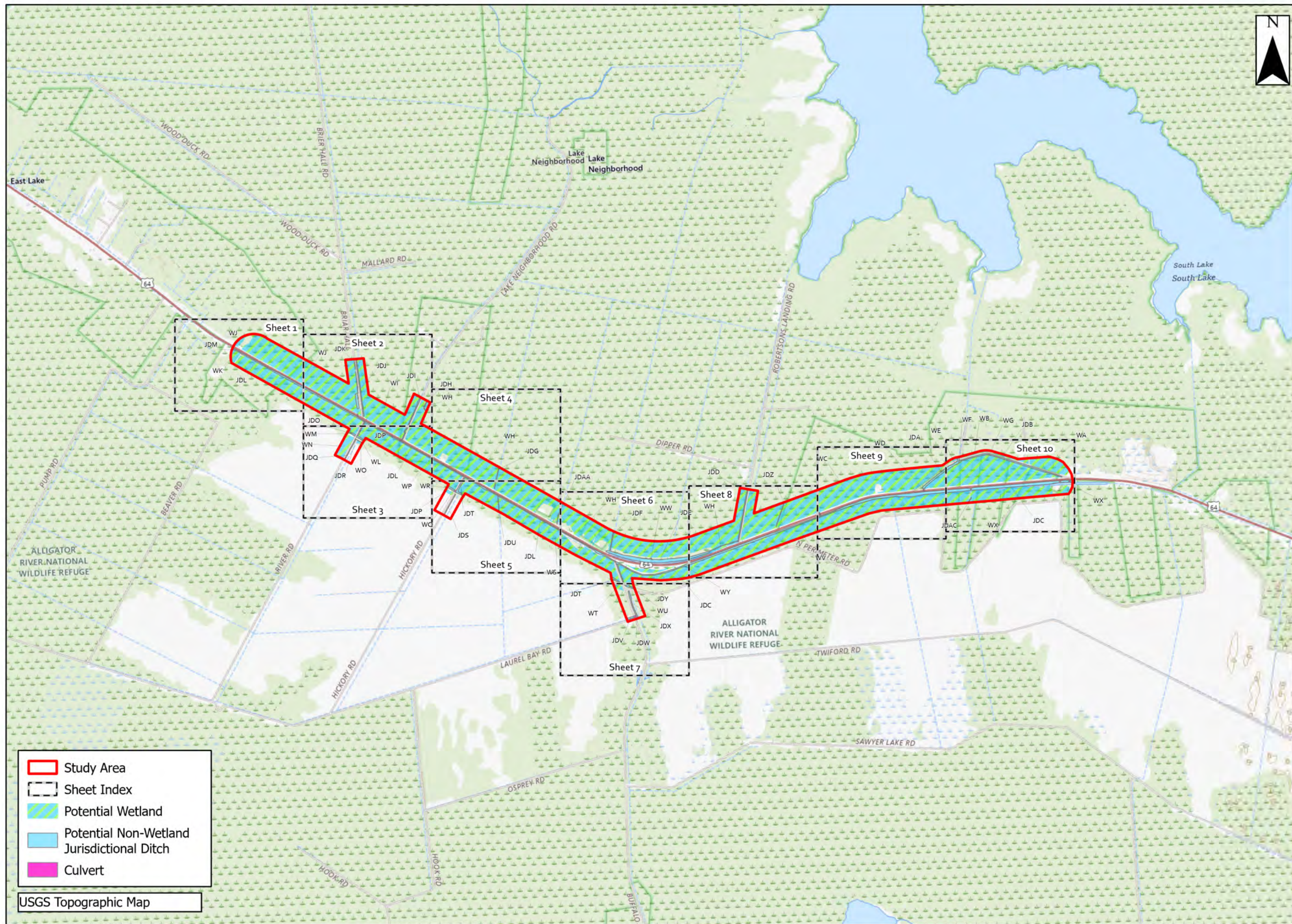


Prepared For:
 HO-0027: US 64 Wildlife Crossings US 64
 from East of East Lake Community to West
 of Robertson Landing Road (SR 1169)

Vicinity Map
 Dare County, North Carolina

Date:	June 2026
0 2,000 4,000 Feet	
Job No.:	26-600
Drawn By:	KEMS
Checked By:	DGC

Figure
1



Prepared For:



HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
Topo

Dare County,
North Carolina

Date: June 2026

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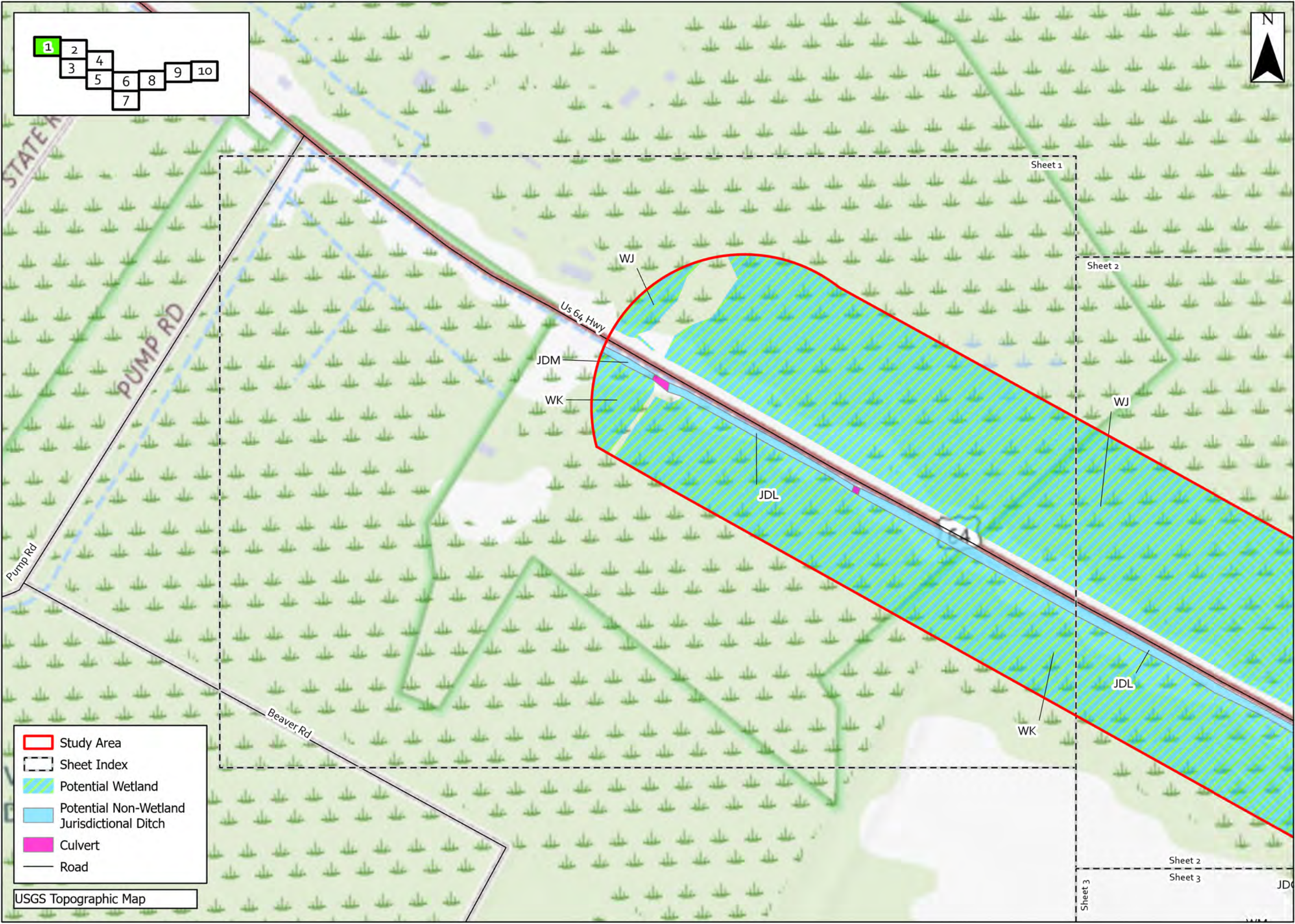
Job No.: 26-600

Drawn By: KEMS
Checked By: DGC

Figure

2

Sheet Index



Prepared For:



HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
Topo

Dare County,
North Carolina

Date: June 2026

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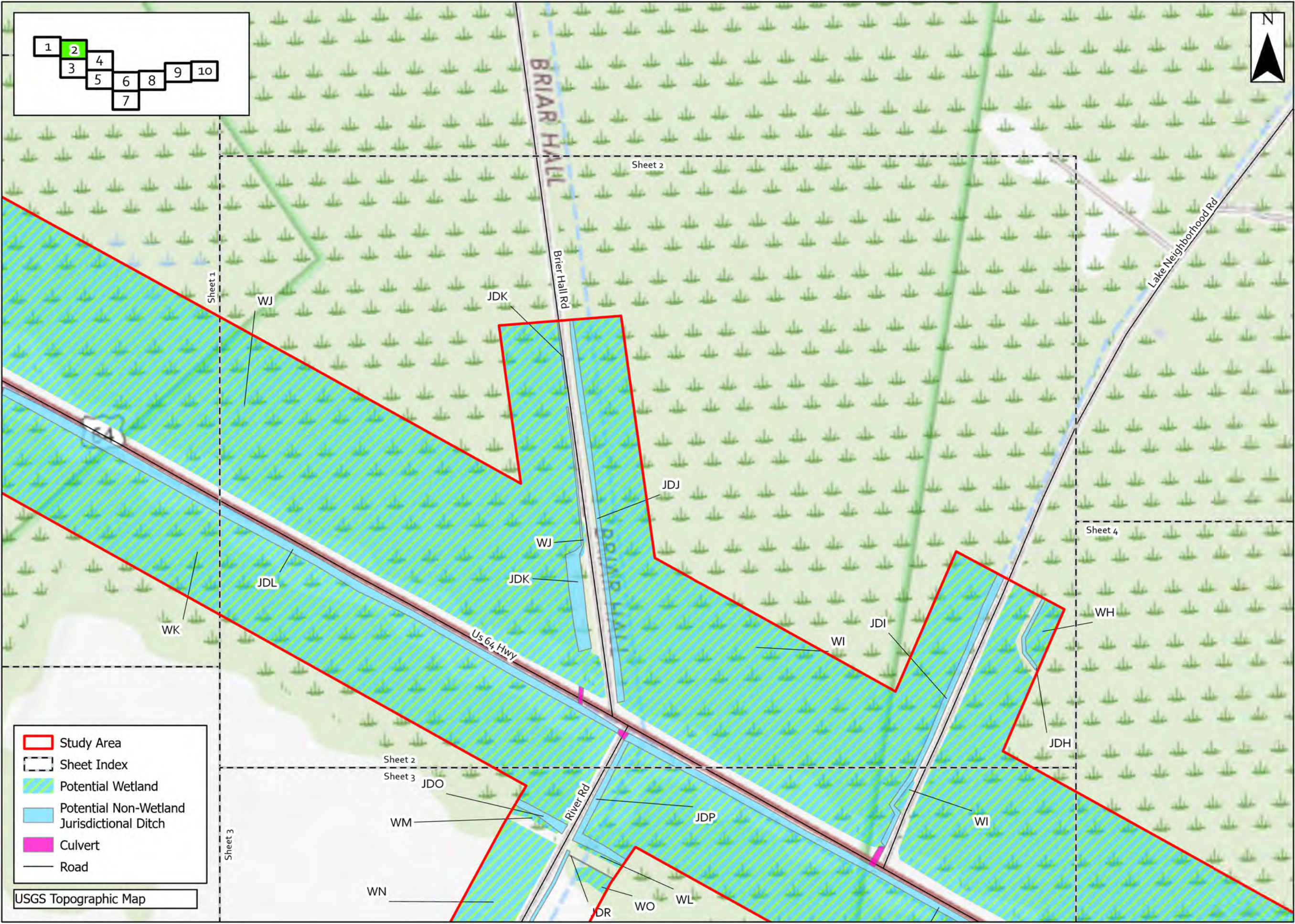
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Checked By: DGC

Figure

2

Sheet 1



Prepared For:



HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
Topo

Dare County,
North Carolina

Date: June 2026

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Feet

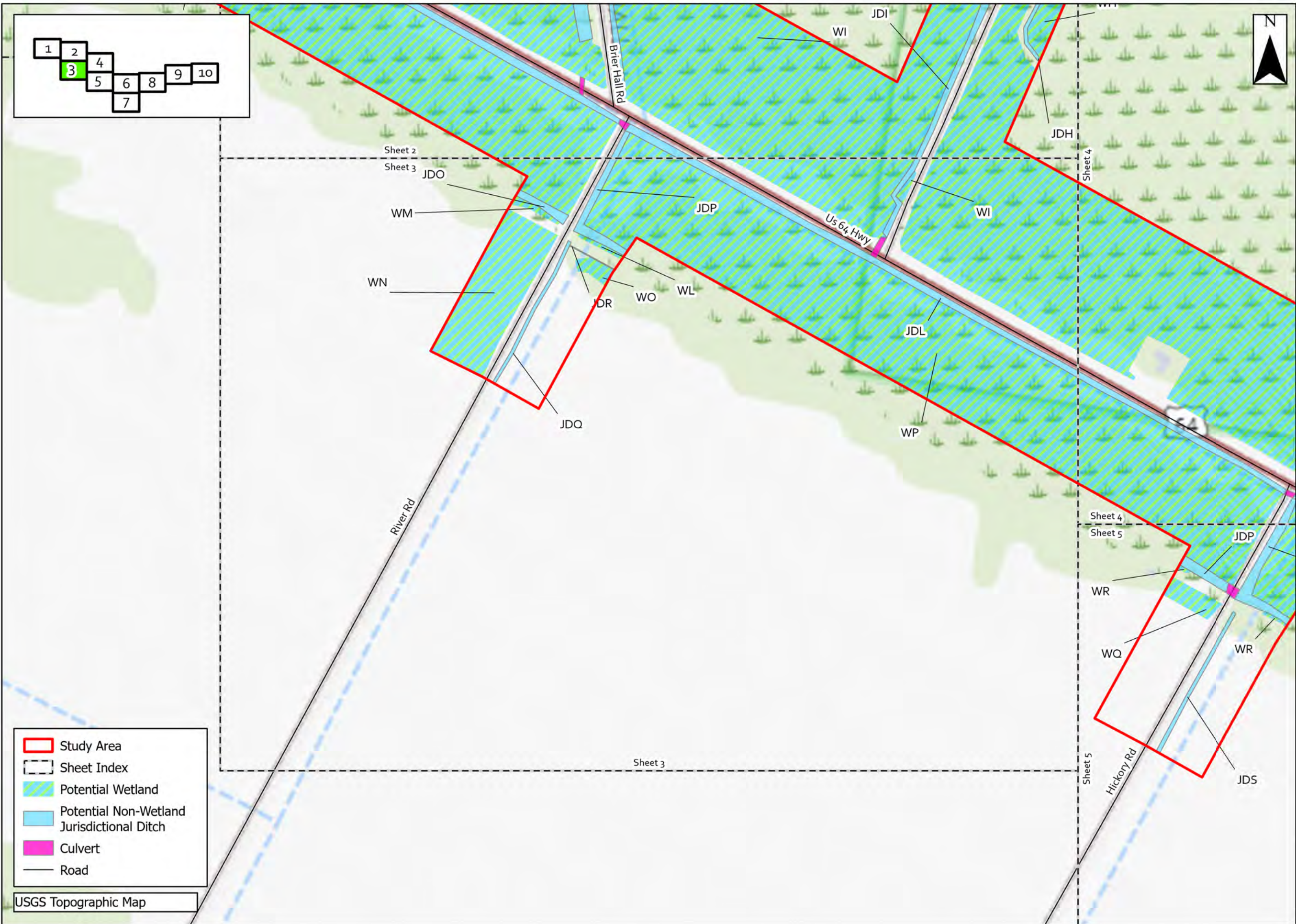
Job No.: 26-600

Drawn By: KEMS	Checked By: DGC
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Figure

2

Sheet 2



Prepared For:



HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
Topo

Dare County,
North Carolina

Date: June 2026

0 150 300
Feet

Job No.: 26-600

Drawn By: KEMS
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Figure

2

Sheet 3



Prepared For:



HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
Topo

Dare County,
North Carolina

Date: June 2026

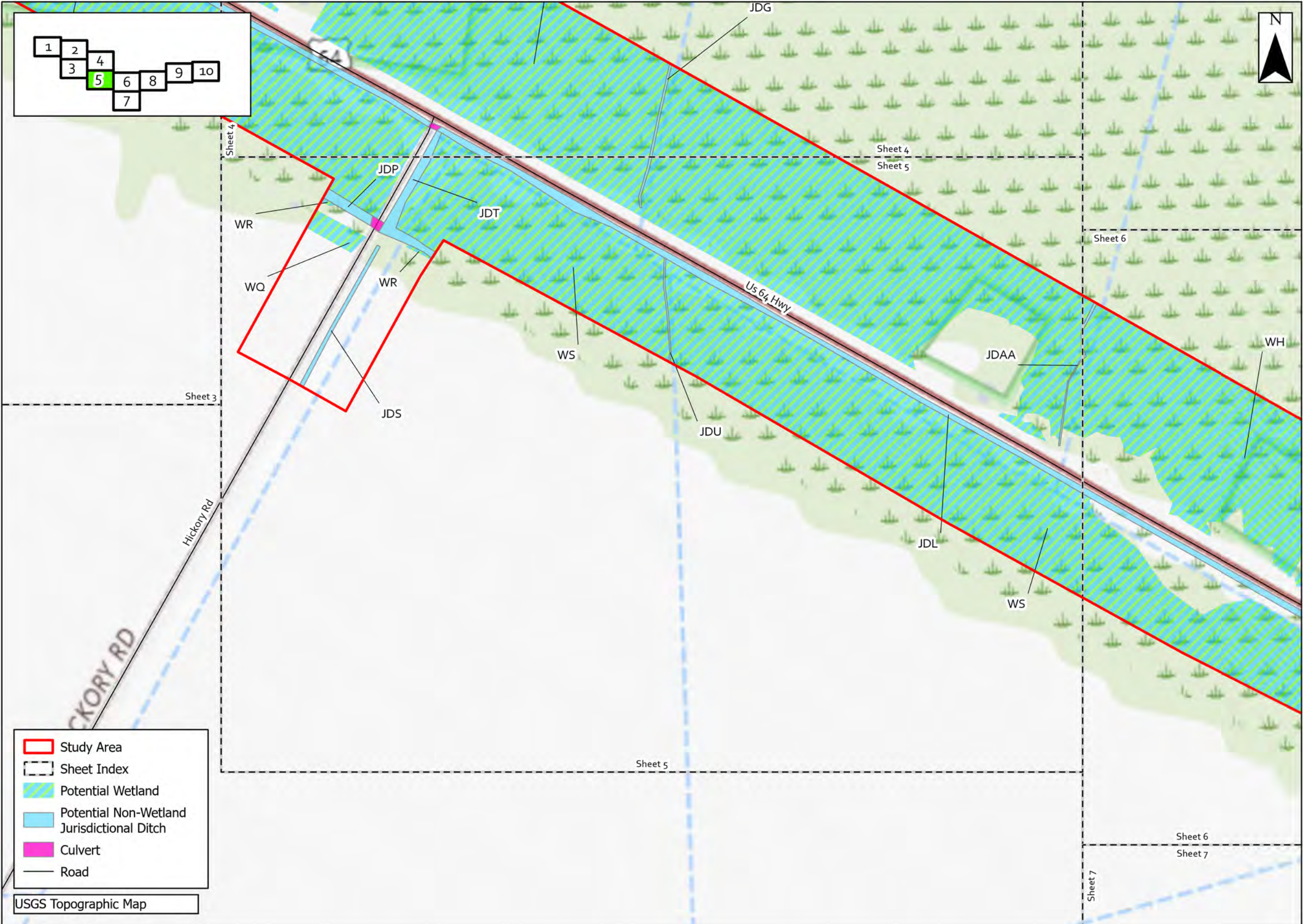
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Job No.: 26-600

Drawn By: KEMS
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Figure

2
Sheet 4



Prepared For:



HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
Topo

Dare County,
North Carolina

Date: June 2026

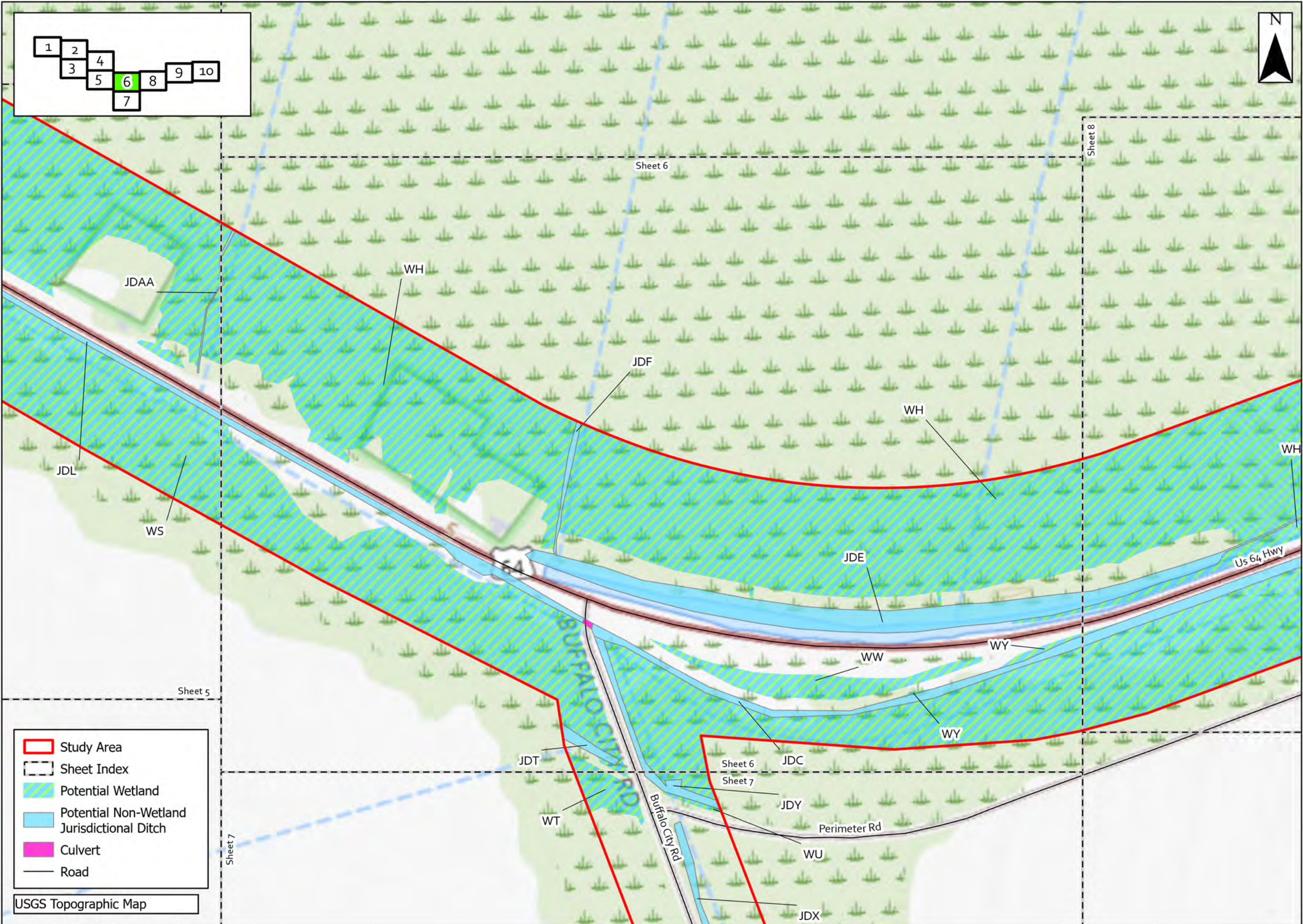
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Job No.: 26-600

Drawn By: KEMS	Checked By: DGC
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Figure

2
Sheet 5



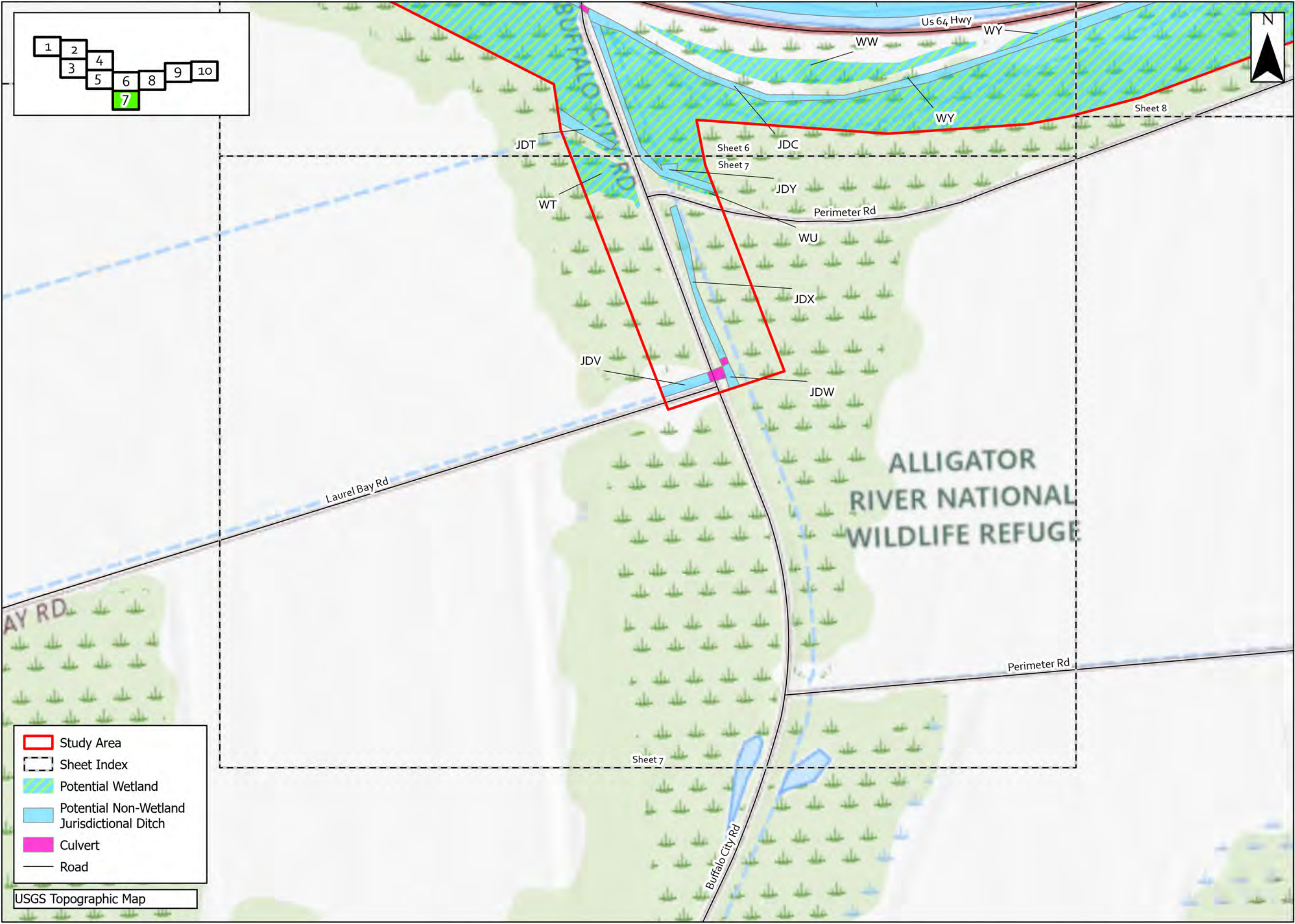
HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
Topo

Dare County,
North Carolina

Date: June 2026	
0 150 300 └──────────┴──────────┘ Feet	
Job No.: 26-600	
Drawn By: KEMS	Checked By: DGC

Figure
2
Sheet 6



Prepared For:



HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
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Water Resources -
Topo

Dare County,
North Carolina

Date: June 2026

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Feet

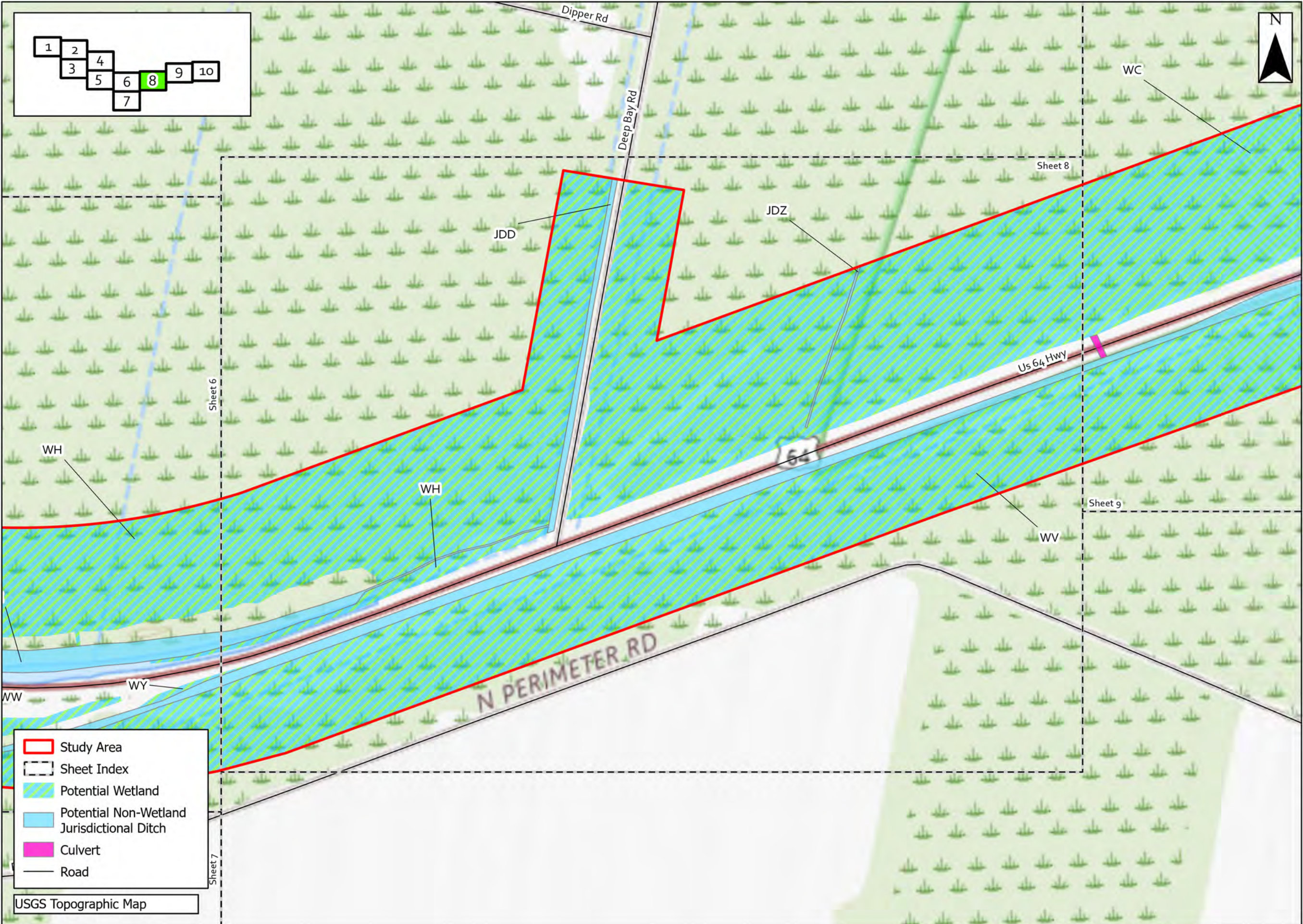
Job No.: 26-600

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Figure

2

Sheet 7



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
Topo

Dare County,
North Carolina

Date: June 2026

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Feet

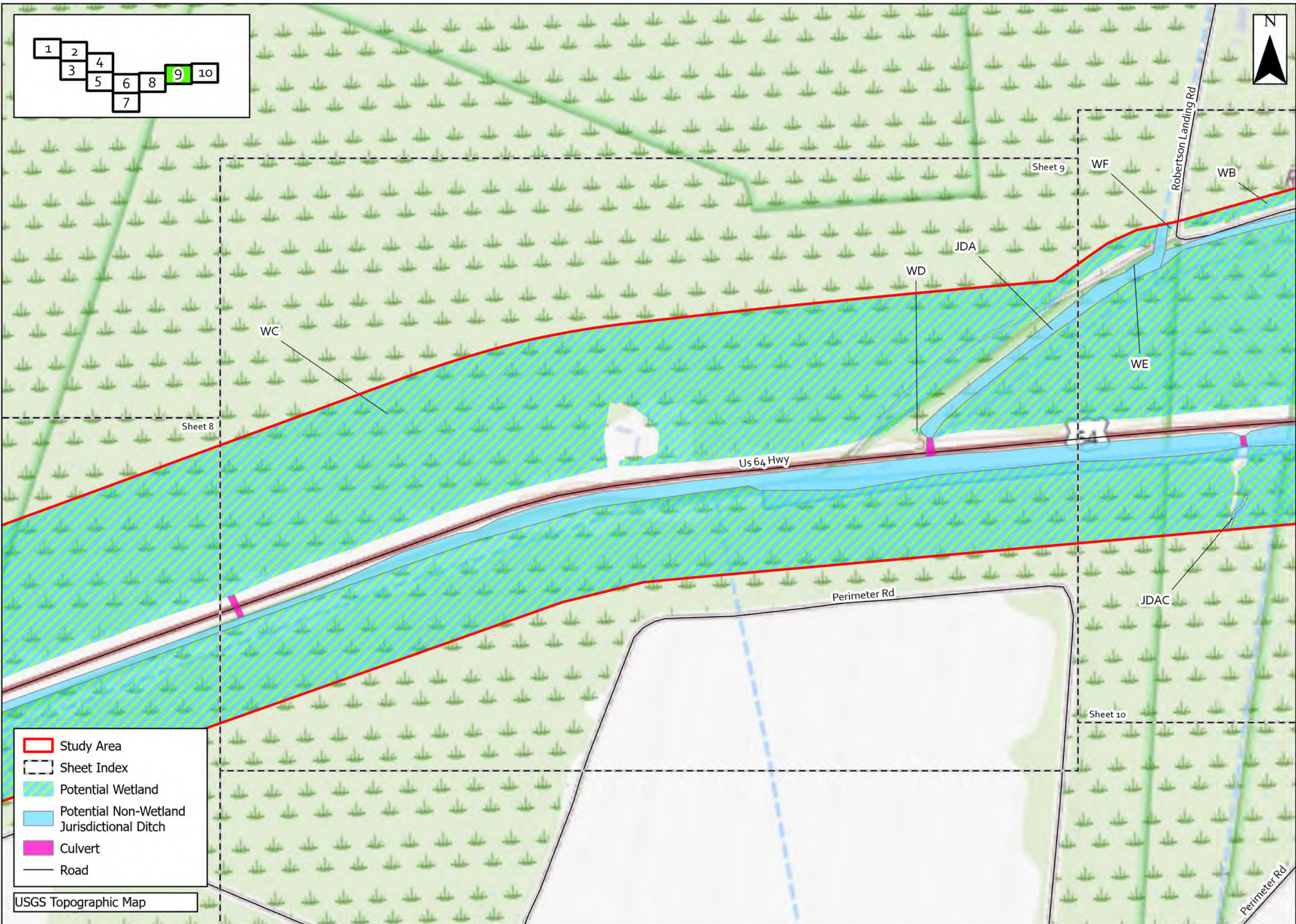
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KEMS	DGC

Figure

2

Sheet 8



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
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Water Resources -
Topo

Dare County,
North Carolina

Date: June 2026

0 150 300
Feet

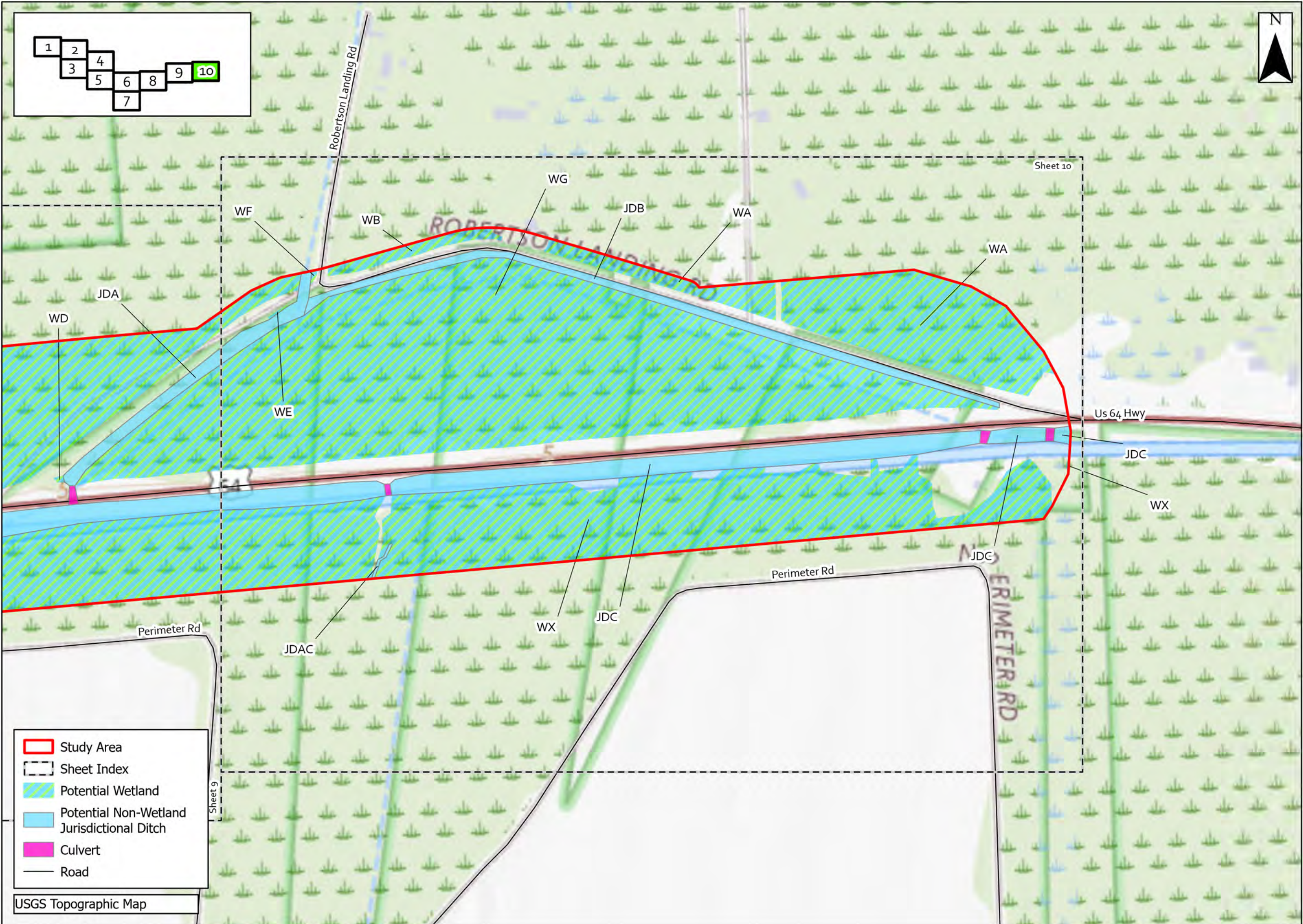
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Figure

2

Sheet 9



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
Topo

Dare County,
North Carolina

Date: June 2026

0 150 300
Feet

Job No.: 26-600

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Figure

2

Sheet 10



- Study Area
- Sheet Index
- Potential Wetland
- Potential Non-Wetland
- Jurisdictional Ditch
- Culvert
- Road

NCOneMap Aerial Photography,
2024-2027



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
Aerial

Dare County,
North Carolina

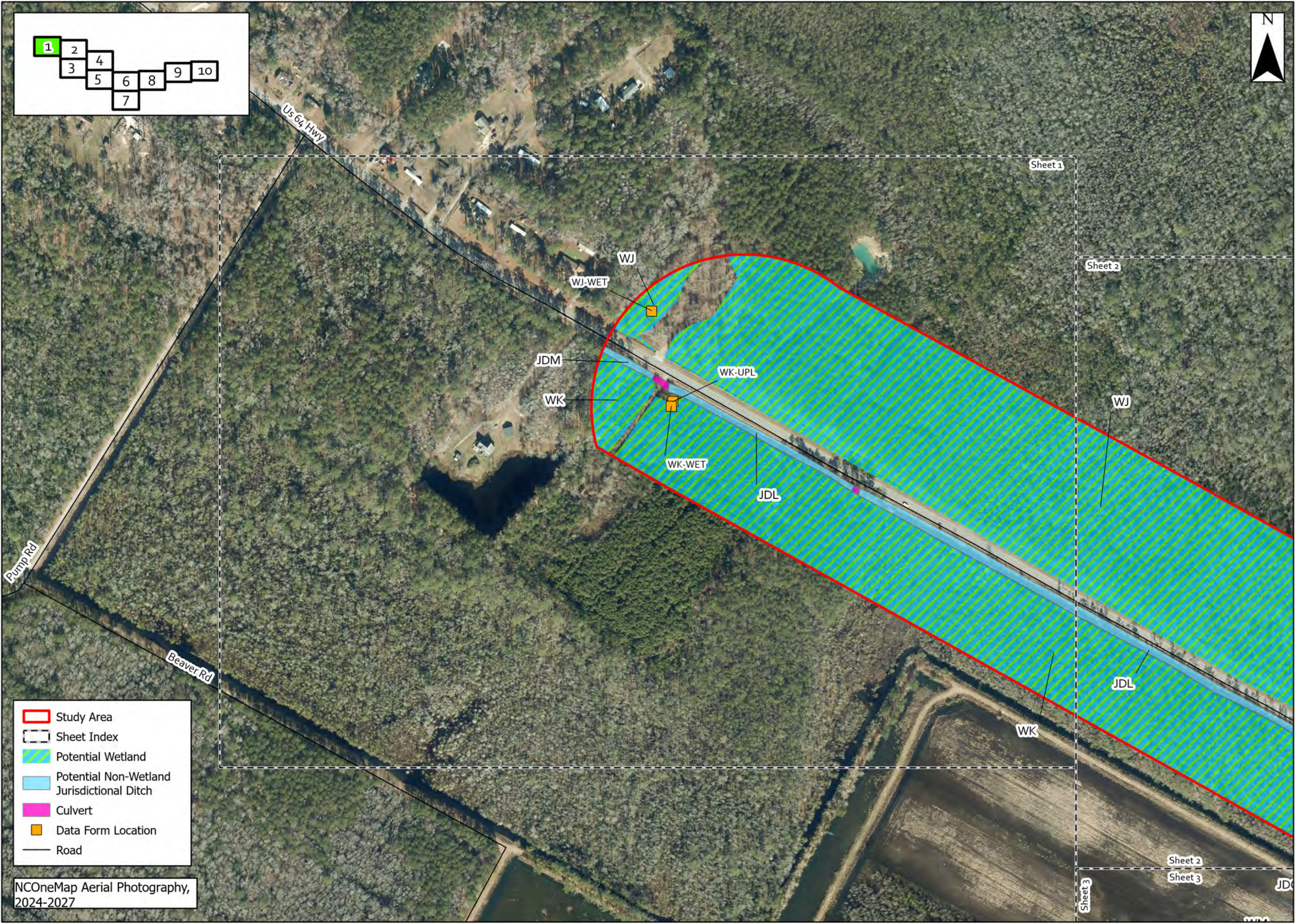
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Feet

Job No.: 26-600

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Figure
3
Sheet Index



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
Aerial

Dare County,
North Carolina

Date: June 2026

0 150 300
Feet

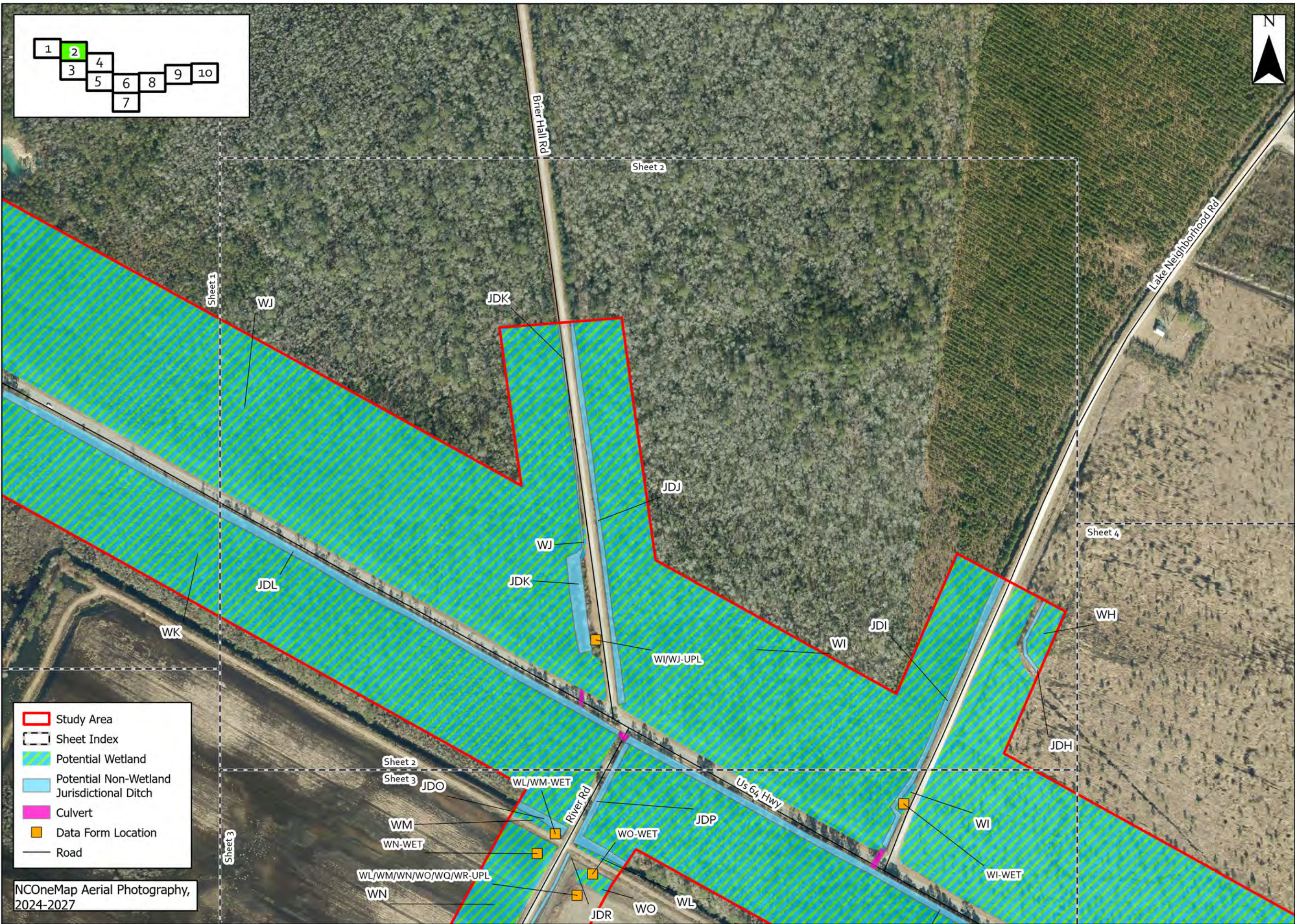
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Figure

3

Sheet 1



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
Aerial

Dare County,
North Carolina

Date: June 2026

0 150 300
Feet

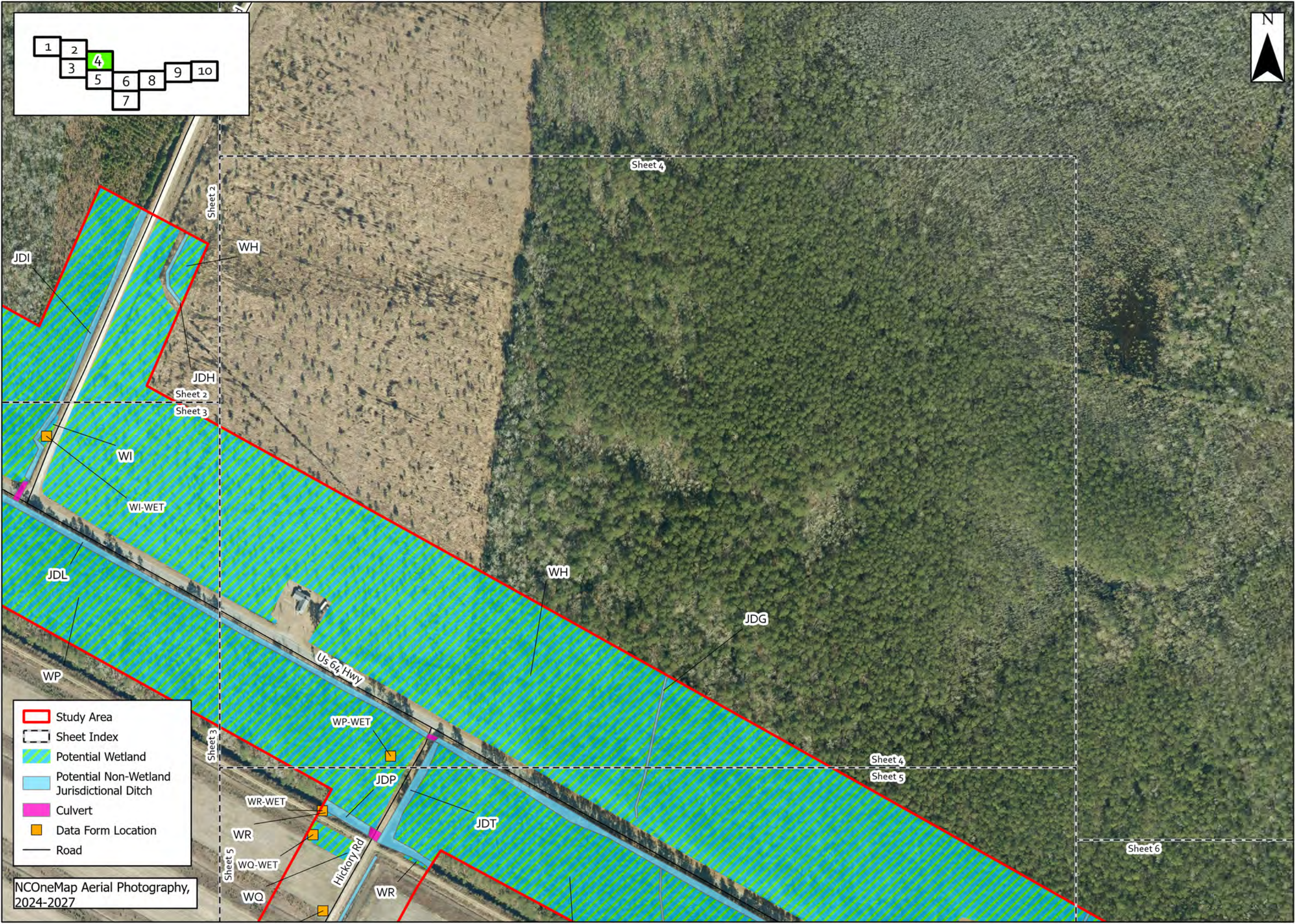
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Figure

3

Sheet 2



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
Aerial

Dare County,
North Carolina

Date: June 2026

0 150 300
Feet

Job No.: 26-600

Drawn By:
KEMS

Checked By:
DGC

Figure

3

Sheet 4



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
Aerial

Dare County,
North Carolina

Date: June 2026

0 150 300
Feet

Job No.: 26-600

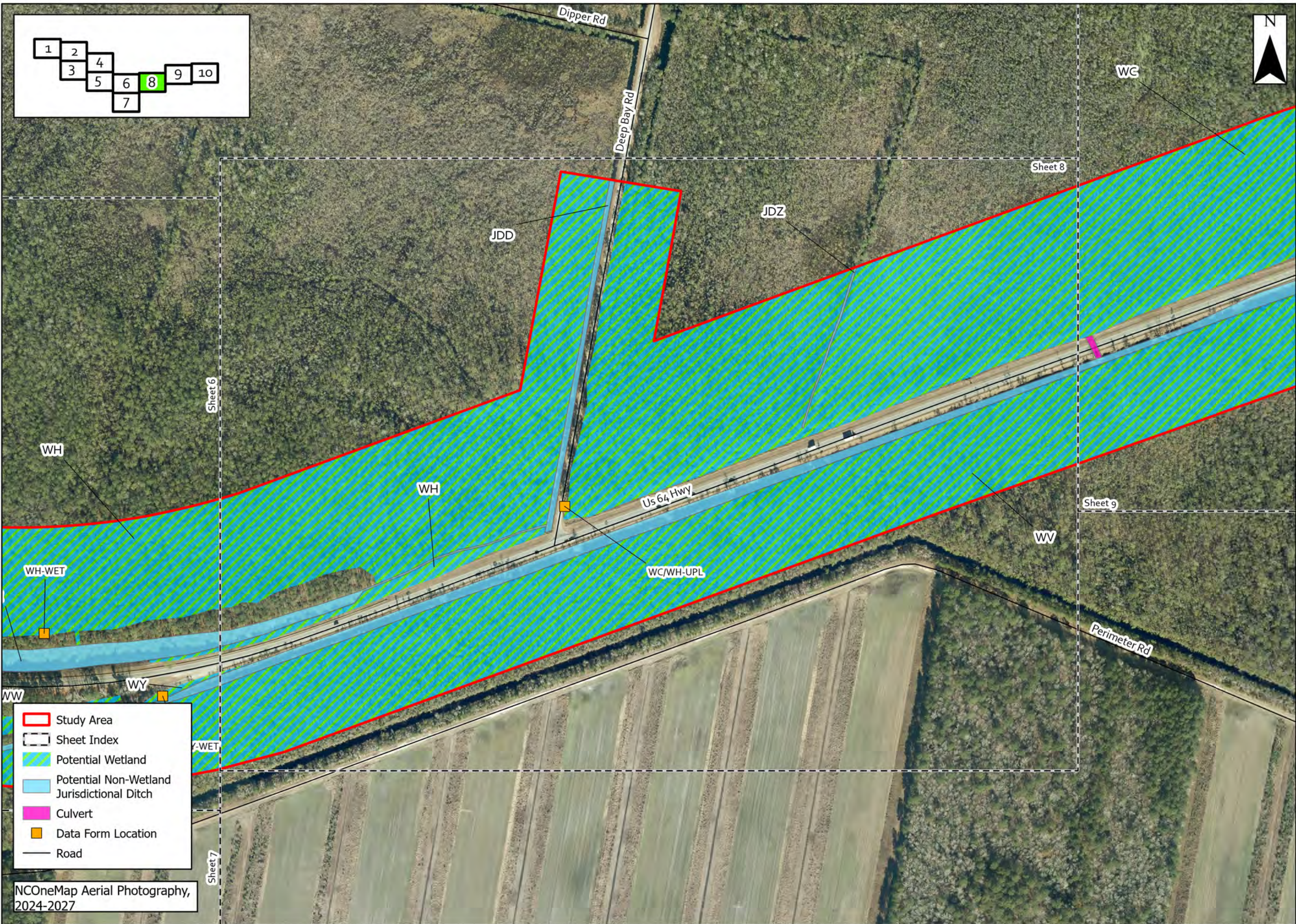
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Figure

3

Sheet 7

NCOneMap Aerial Photography,
2024-2027



NCOneMap Aerial Photography,
2024-2027



Prepared For:



HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
Aerial

Dare County,
North Carolina

Date: June 2026

0 150 300
Feet

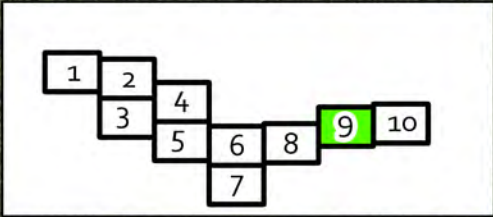
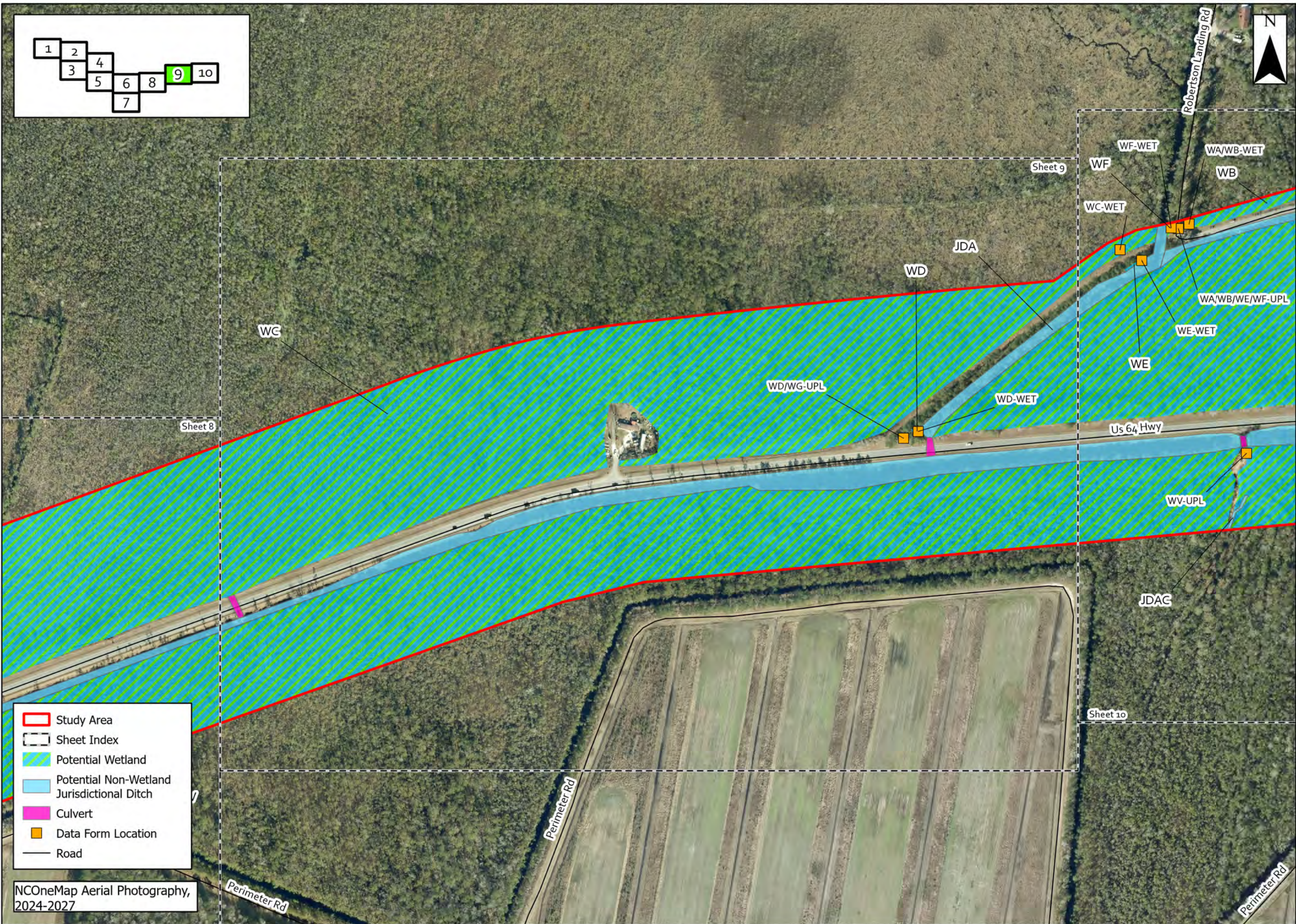
Job No.: 26-600

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Figure

3

Sheet 8



- Study Area
- Sheet Index
- Potential Wetland
- Potential Non-Wetland
- Jurisdictional Ditch
- Culvert
- Data Form Location
- Road

NCOneMap Aerial Photography,
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Prepared For:



HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
Aerial

Dare County,
North Carolina

Date: June 2026

0 150 300
Feet

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Figure

3
Sheet 9



NCOneMap Aerial Photography,
2024-2027; NCDOT LiDAR Layer



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
LiDAR

Dare County,
North Carolina

Date: June 2026

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Feet

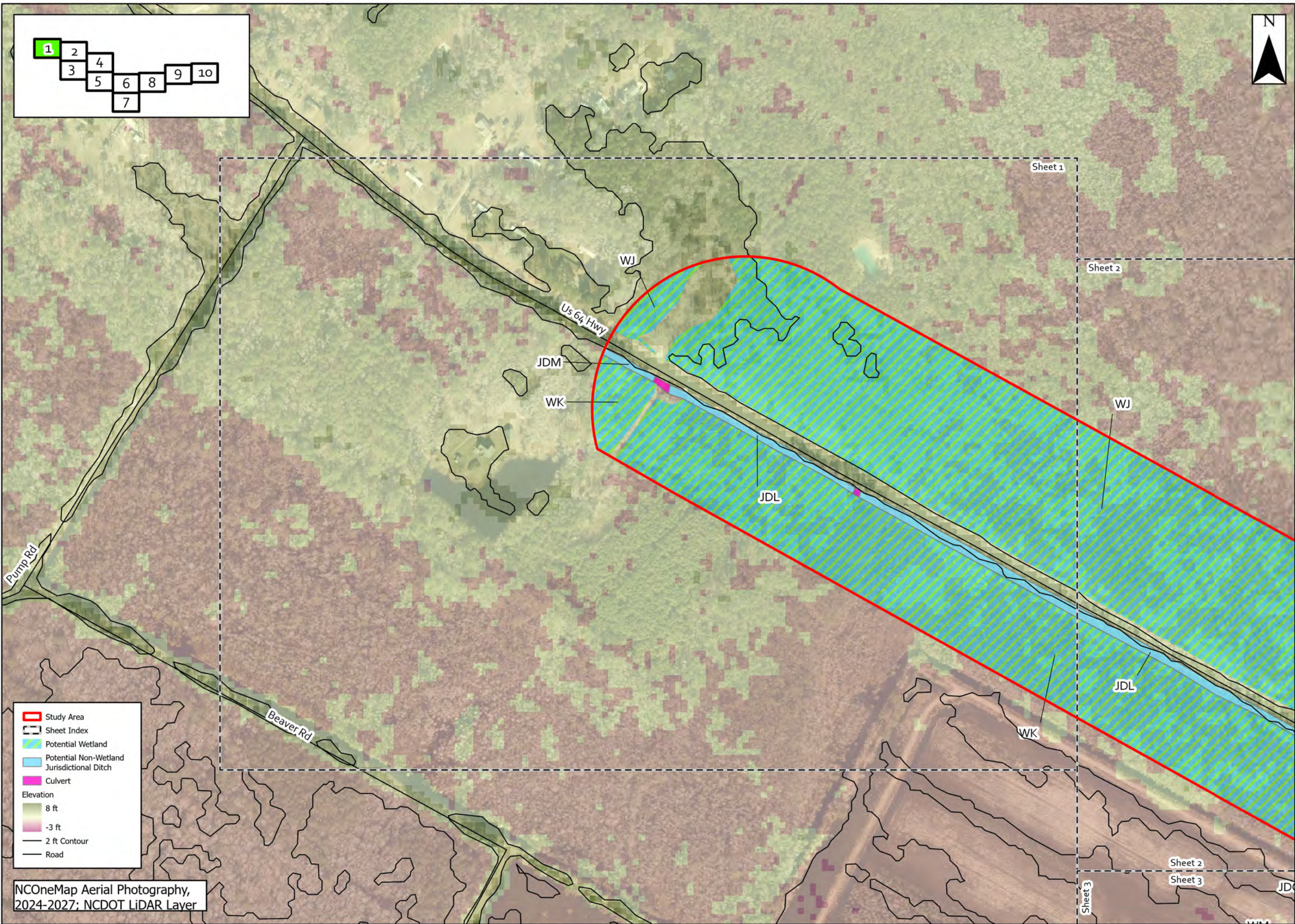
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Figure

4

Sheet Index



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
LiDAR

Dare County,
North Carolina

Date: June 2026

0 150 300
Feet

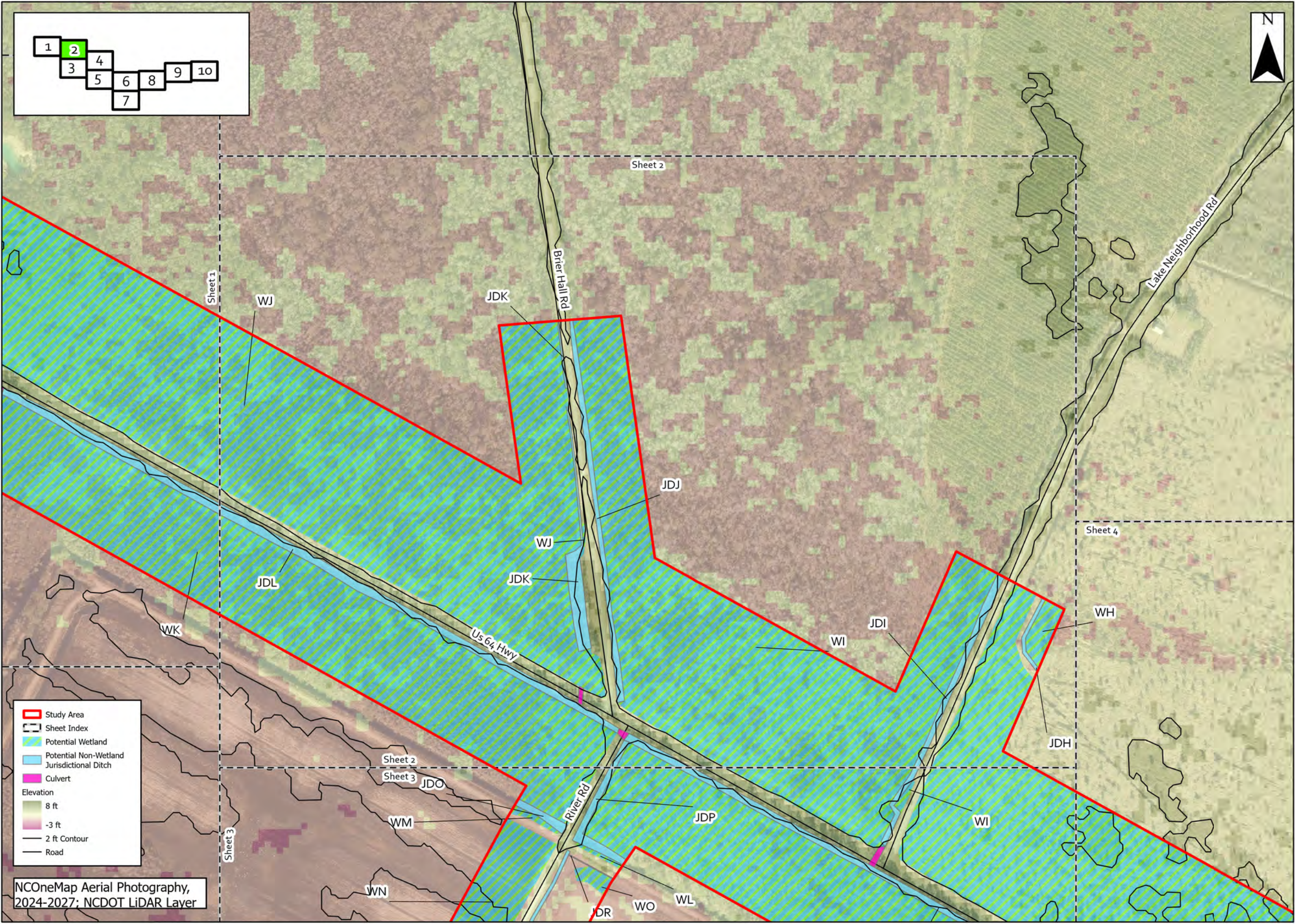
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Figure

4

Sheet 1



Study Area

Sheet Index

Potential Wetland

Potential Non-Wetland Jurisdictional Ditch

Culvert

Elevation

8 ft

-3 ft

2 ft Contour

Road

NOneMap Aerial Photography,
2024-2027; NCDOT LiDAR Layer



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
LiDAR

Dare County,
North Carolina

Date: June 2026

0 150 300
Feet

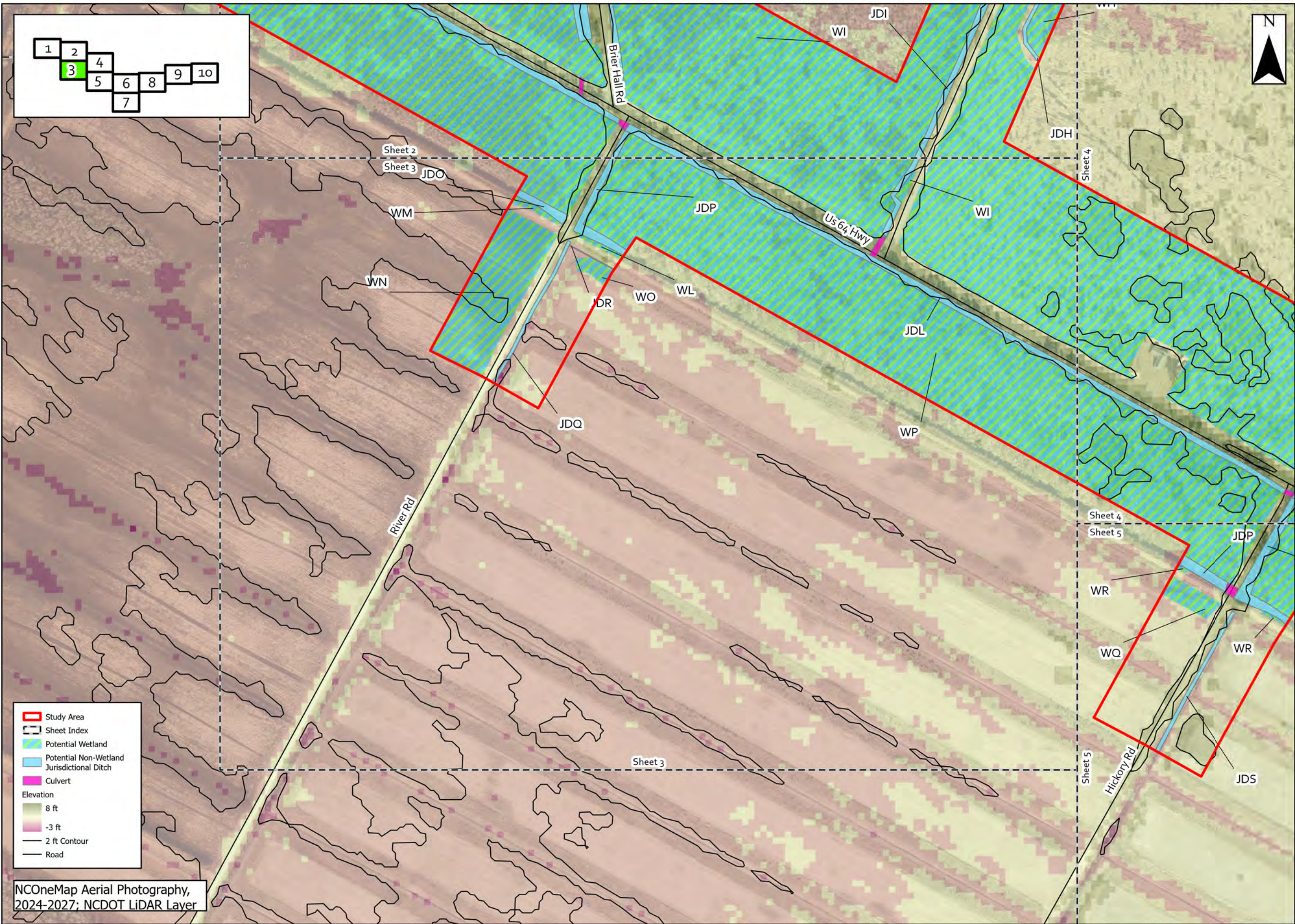
Job No.: 26-600

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KEMS	DGC

Figure

4

Sheet 2



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
LiDAR

Dare County,
North Carolina

Date: June 2026

0 150 300
Feet

Job No.: 26-600

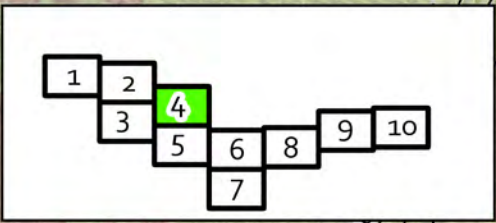
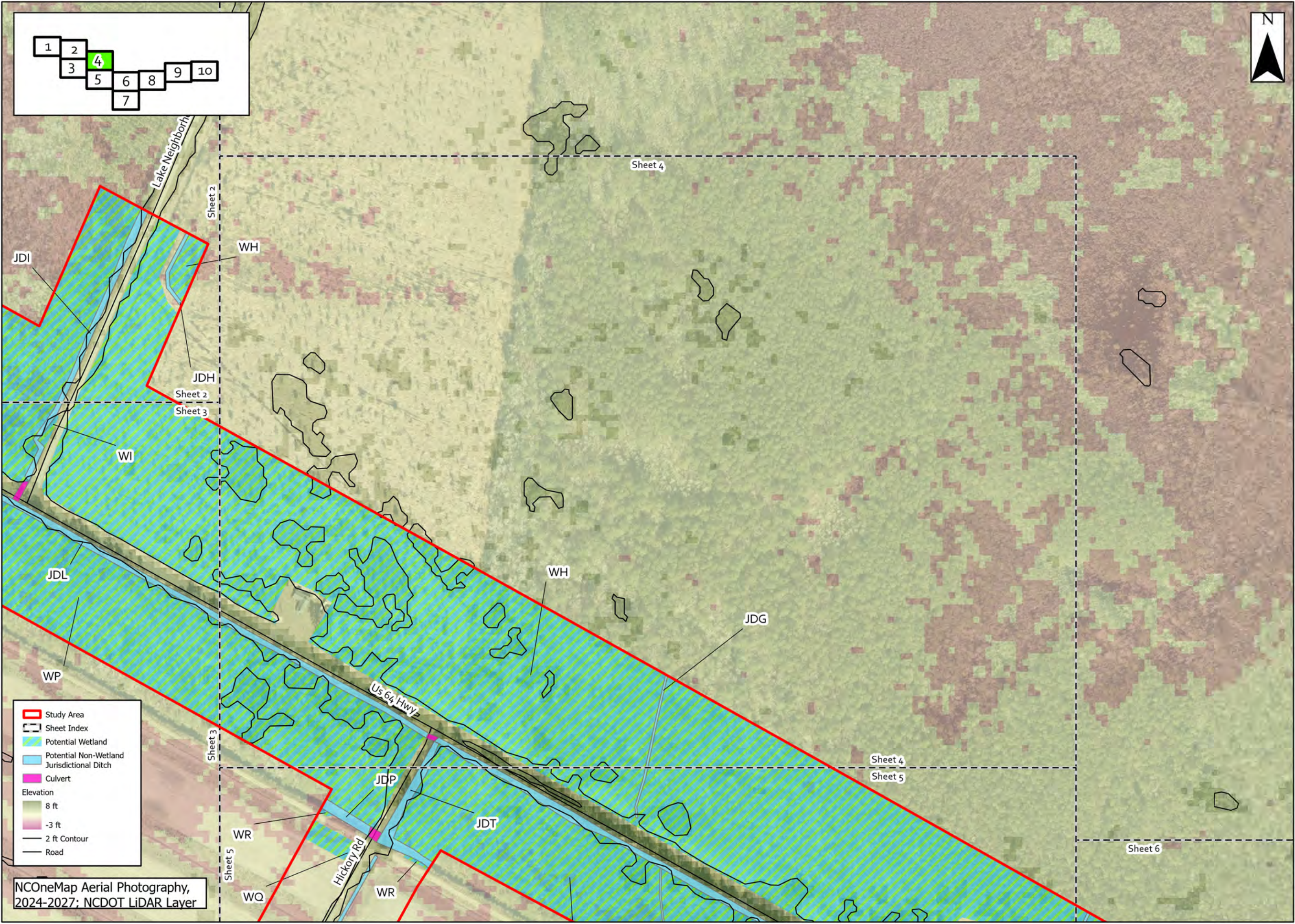
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Figure

4

Sheet 3

NCOneMap Aerial Photography,
2024-2027; NCDOT LiDAR Layer



- Study Area
- Sheet Index
- Potential Wetland
- Potential Non-Wetland Jurisdictional Ditch
- Culvert
- Elevation
 - 8 ft
 - 3 ft
 - 2 ft Contour
 - Road

NOneMap Aerial Photography,
2024-2027; NCDOT LiDAR Layer



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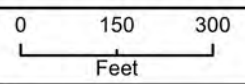


HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
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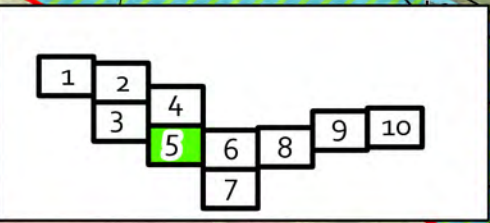
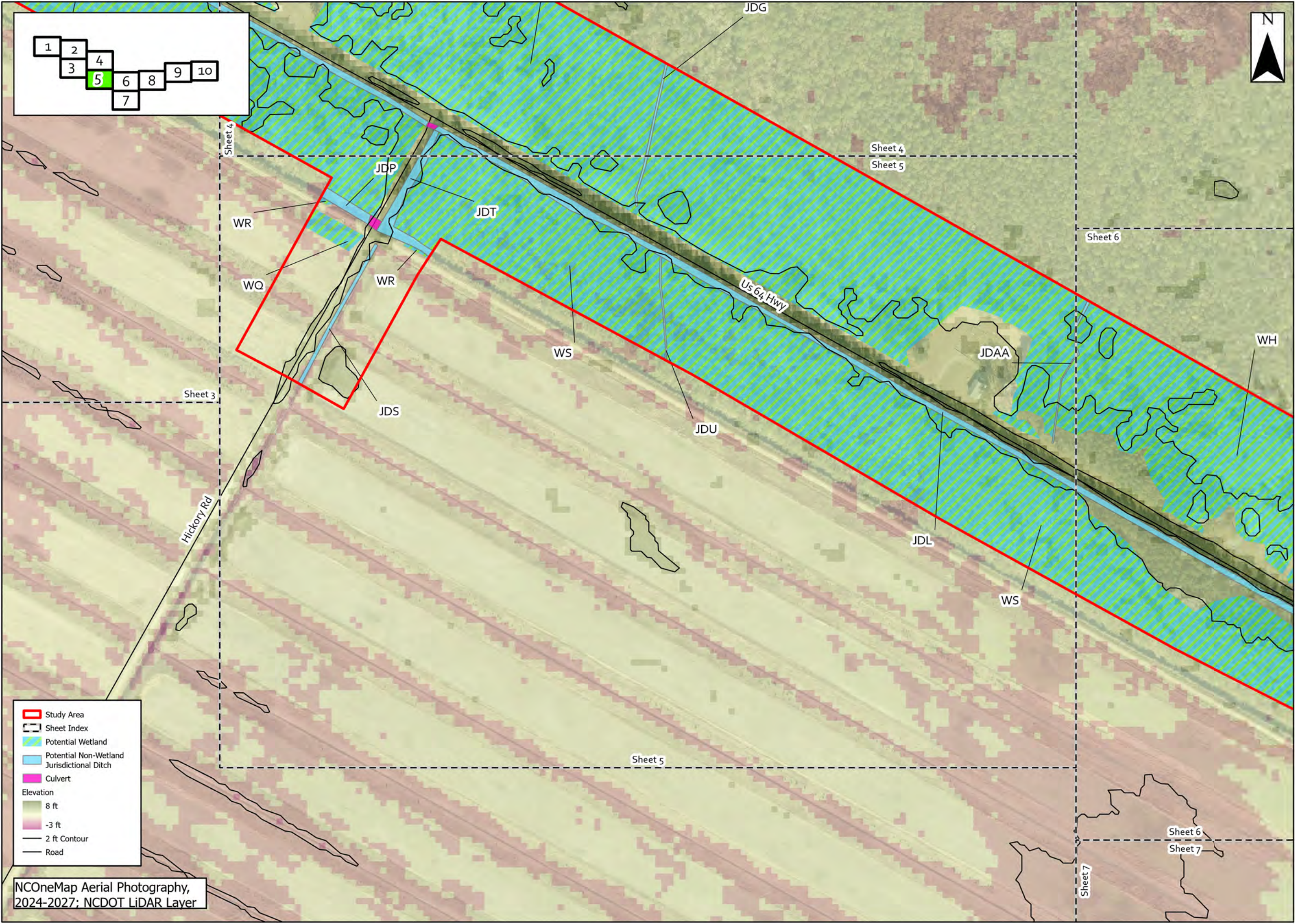
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Figure

4

Sheet 4



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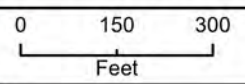


HO-0027: US 64
Wildlife Crossings
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West of Robertson
Landing Road
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Water Resources -
LiDAR

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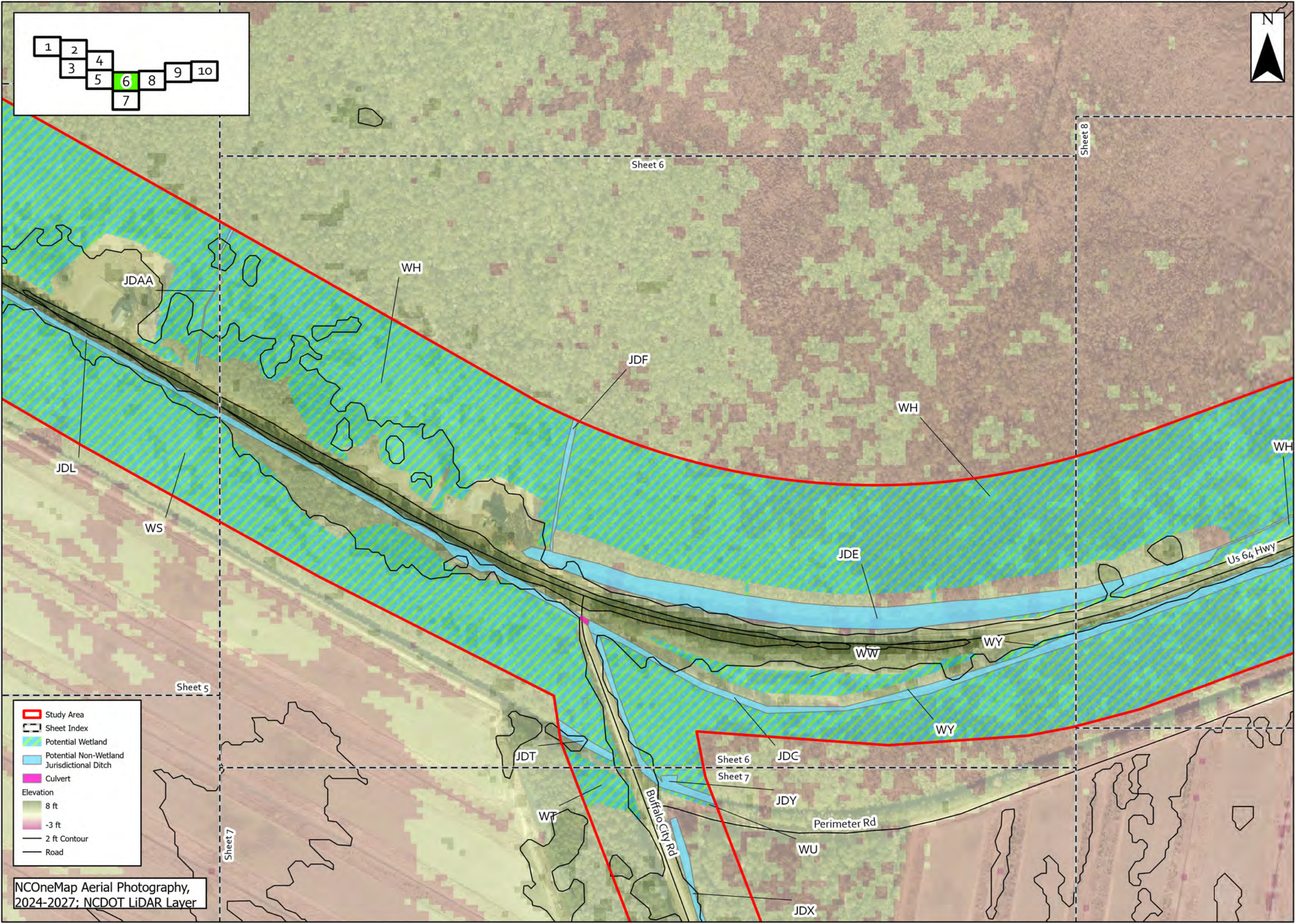
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Figure

4

Sheet 5

NCOneMap Aerial Photography,
2024-2027; NCDOT LiDAR Layer



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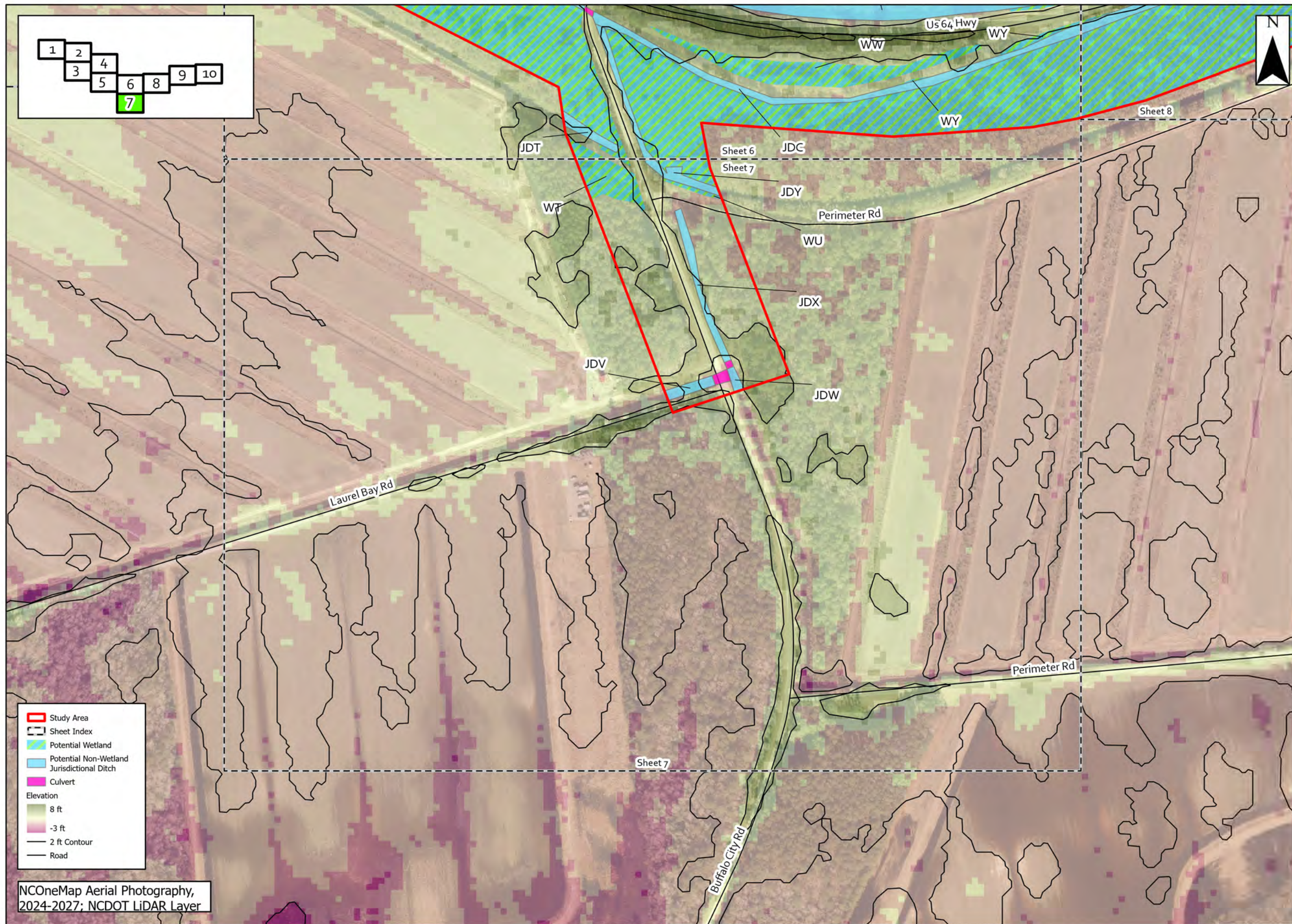
HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
LiDAR

Dare County,
North Carolina

Date:	June 2026
Job No.:	26-600
Drawn By:	Checked By:
KEMS	DGC

Figure
4
Sheet 6



Prepared For:



HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
LiDAR

Dare County,
North Carolina

Date: June 2026

0 150 300
Feet

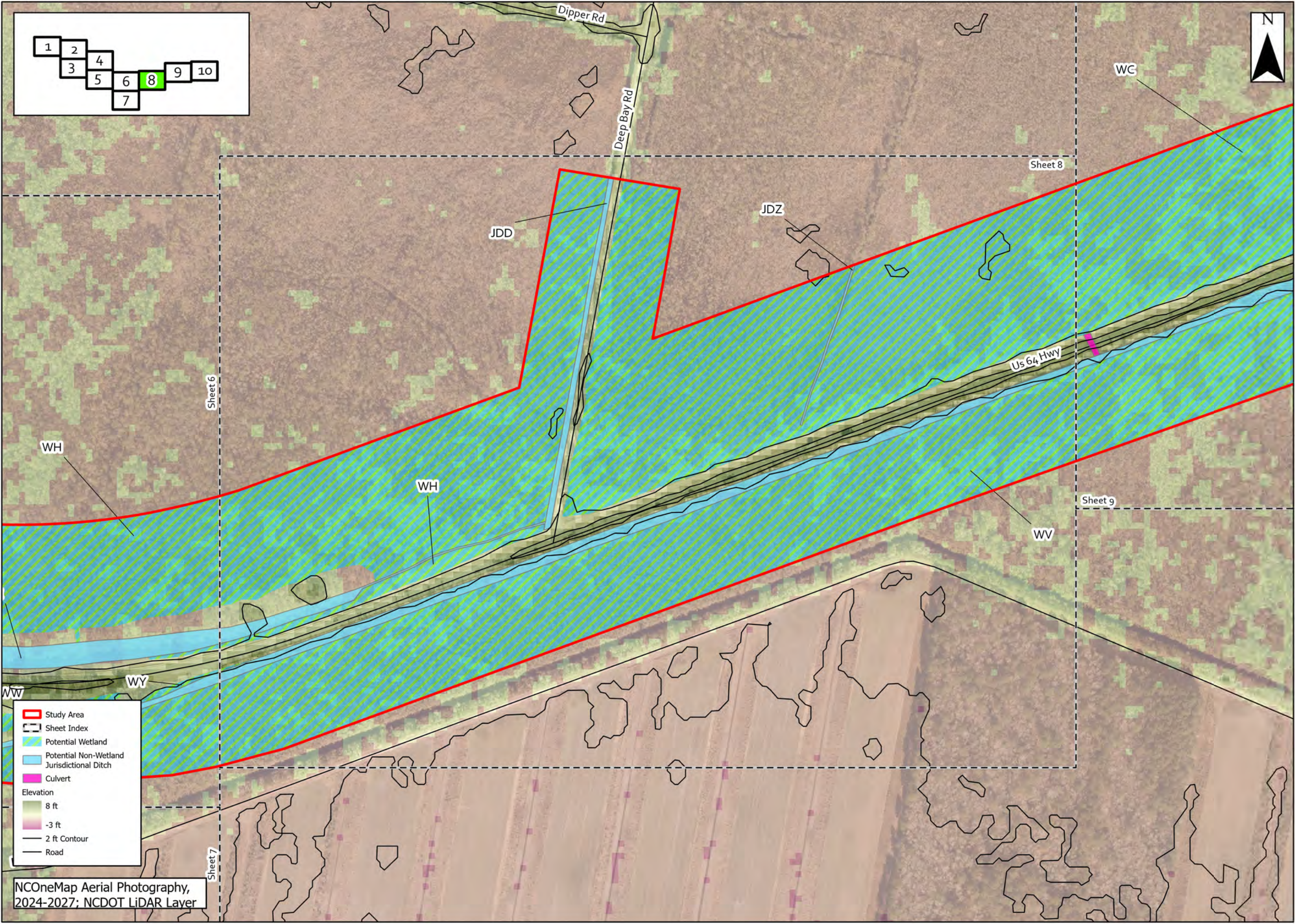
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Checked By: DGC

Figure

4

Sheet 7



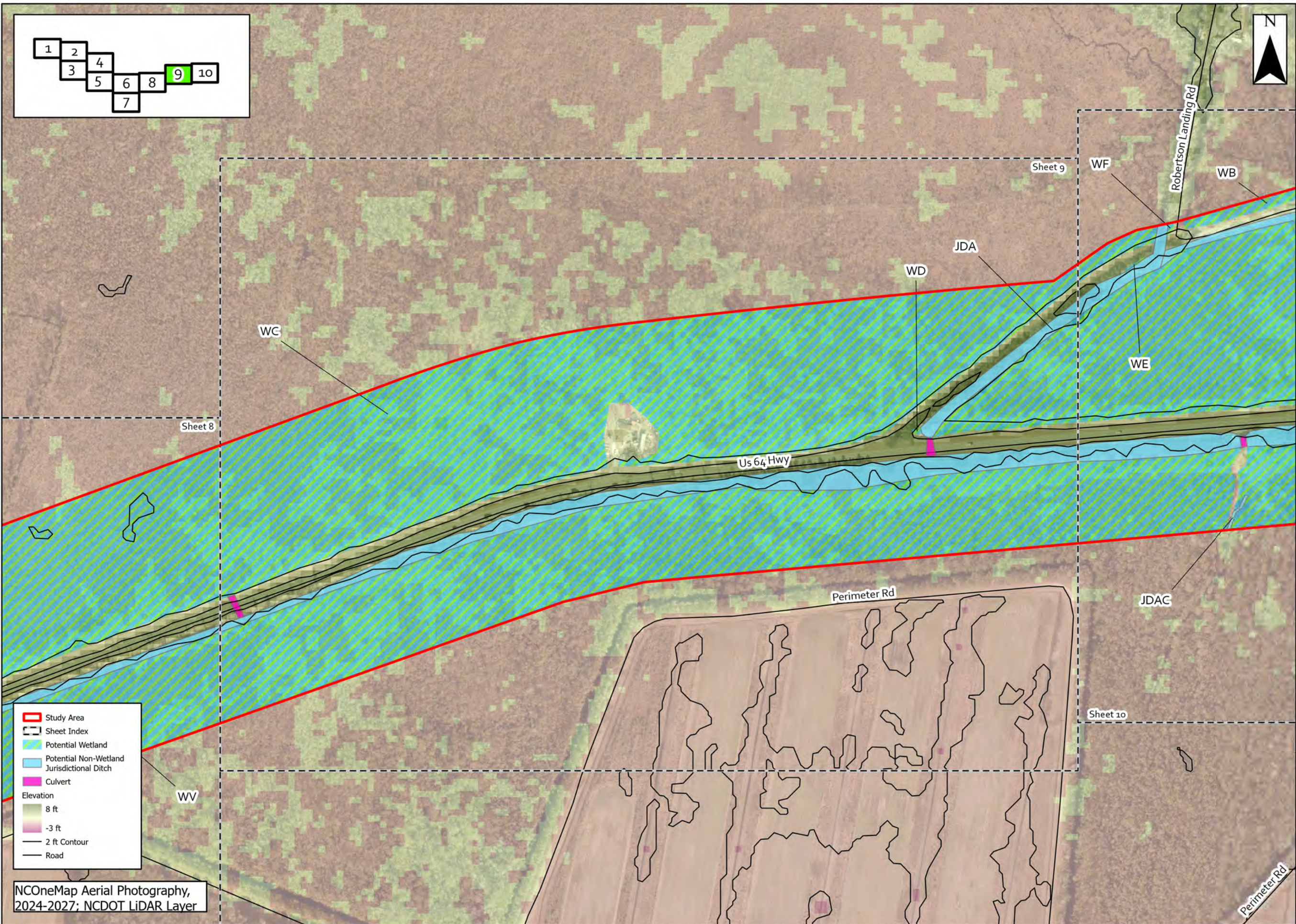
HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
LiDAR

Dare County,
North Carolina

Date:	June 2026
Job No.:	26-600
Drawn By:	Checked By:
KEMS	DGC

Figure
4
Sheet 8



Prepared For:



HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
LiDAR

Dare County,
North Carolina

Date: June 2026

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Feet

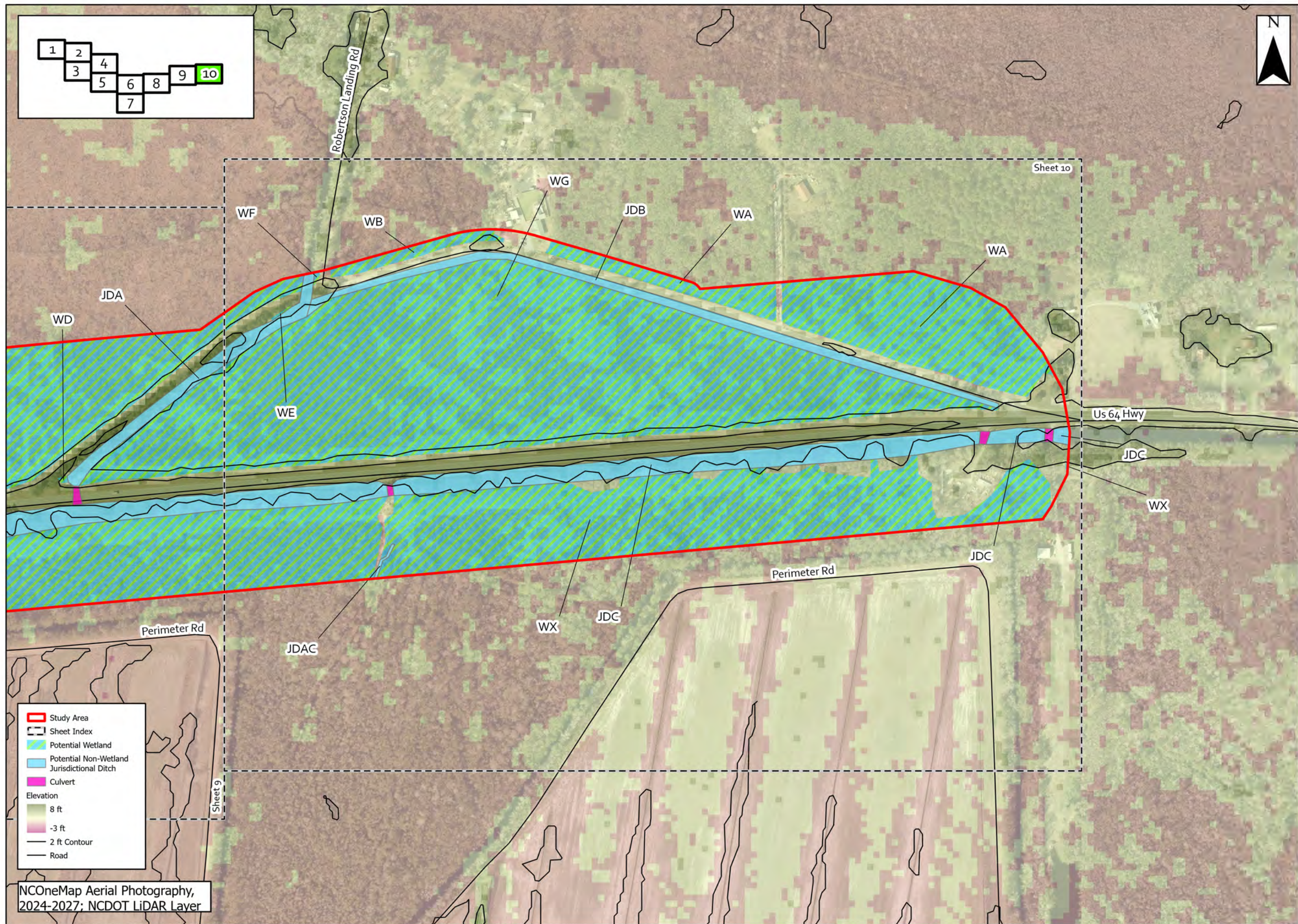
Job No.: 26-600

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Figure

4

Sheet 9



NCOneMap Aerial Photography,
2024-2027; NCDOT LiDAR Layer



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
LiDAR

Dare County,
North Carolina

Date: June 2026

0 150 300
Feet

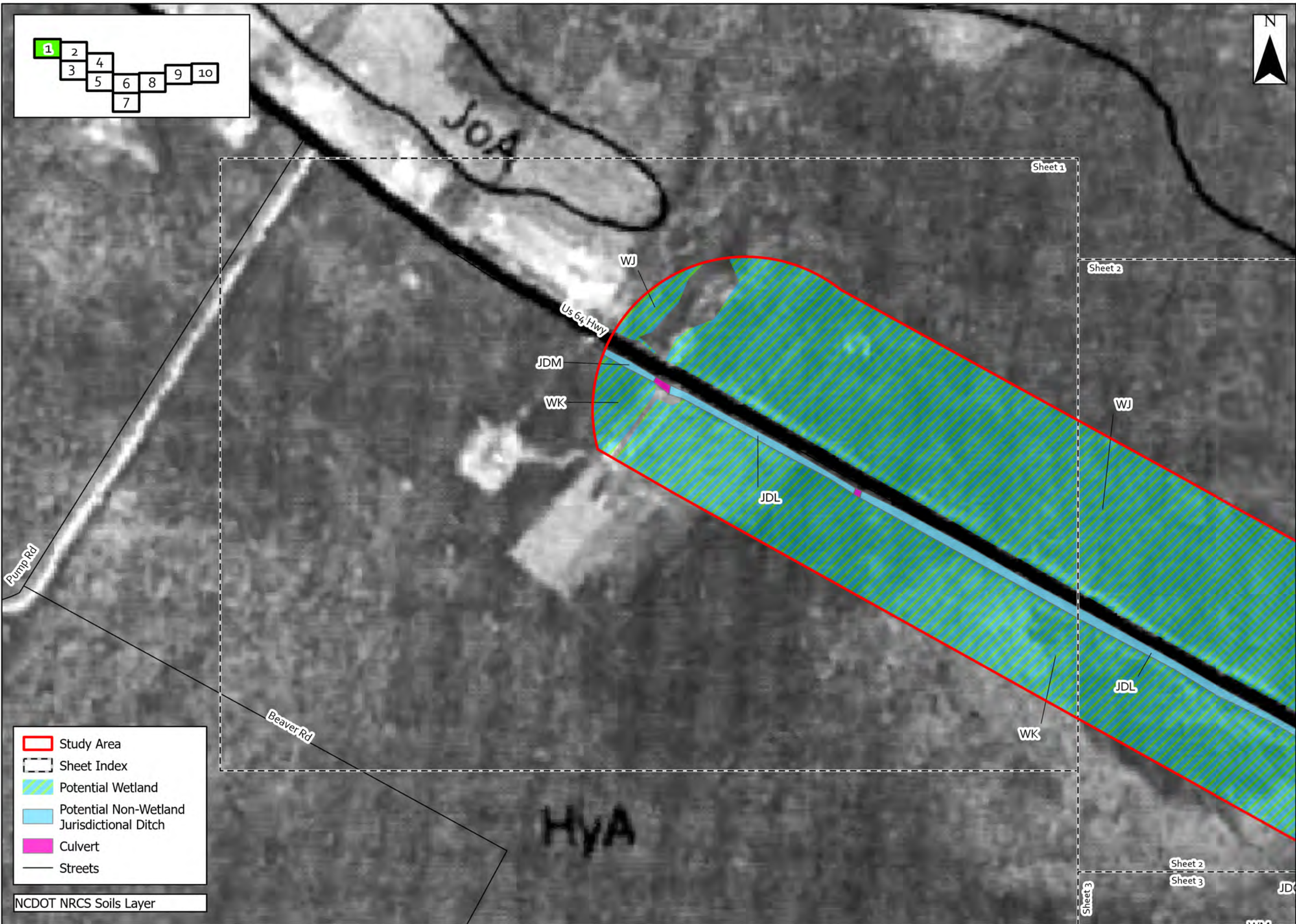
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Figure

4

Sheet 10



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
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Water Resources -
NRCS Soils

Dare County,
North Carolina

Date: June 2026

0 150 300
Feet

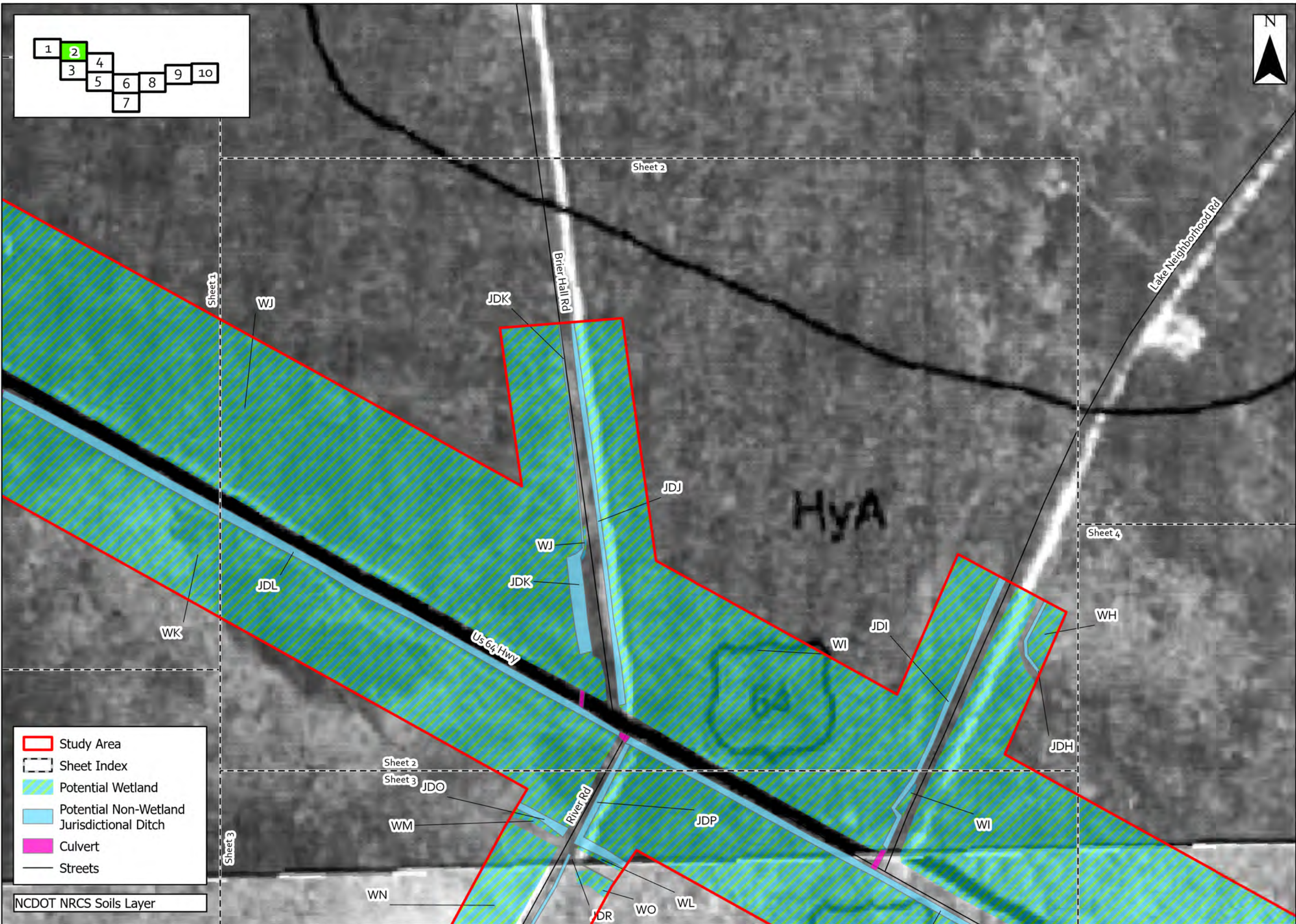
Job No.: 26-600

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Checked By: DGC

Figure

5

Sheet 1



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
NRCS Soils

Dare County,
North Carolina

Date: June 2026

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Feet

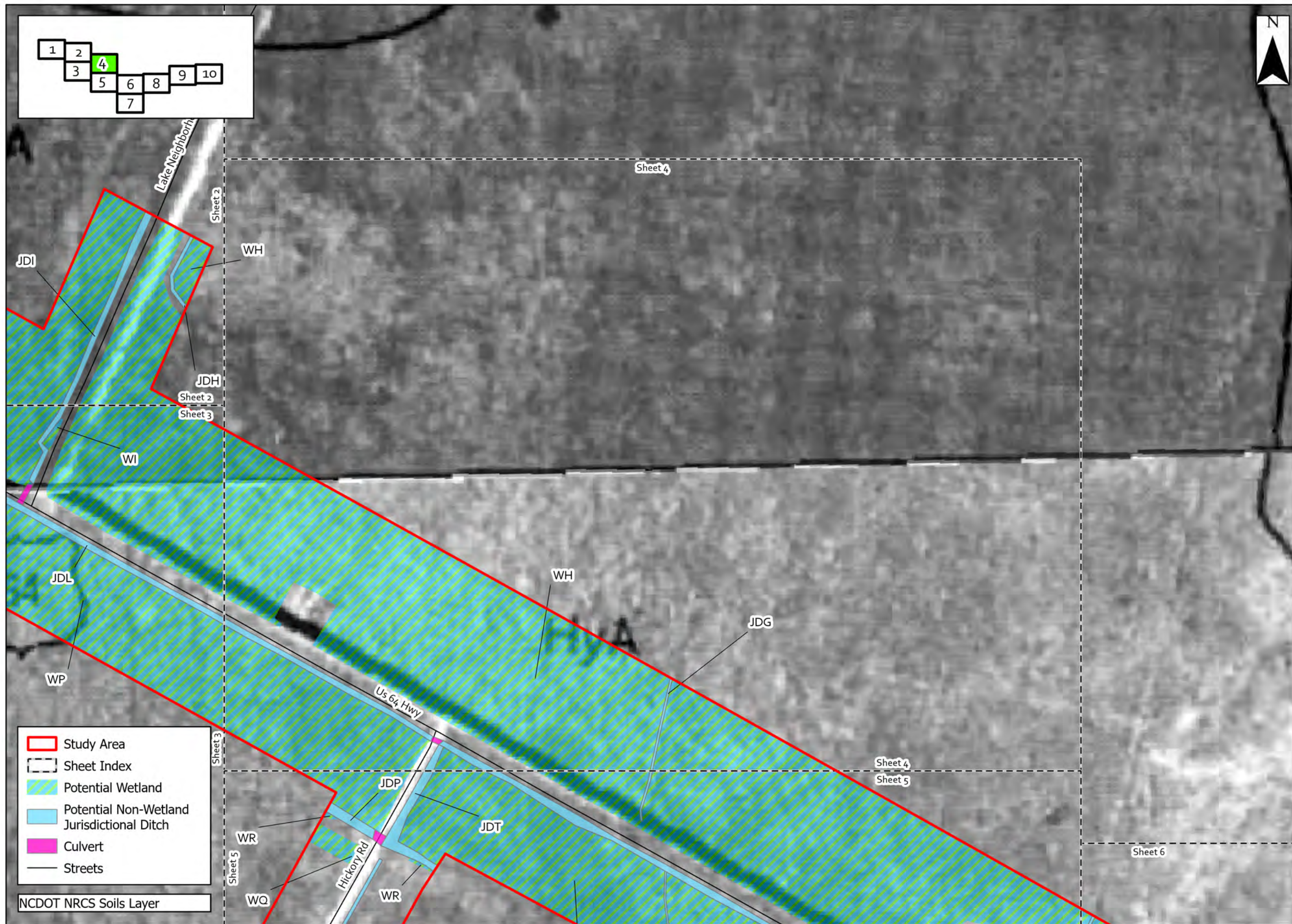
Job No.: 26-600

Drawn By: KEMS
Checked By: DGC

Figure

5

Sheet 2



Prepared For:



HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
NRCS Soils

Dare County,
North Carolina

Date: June 2026

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Feet

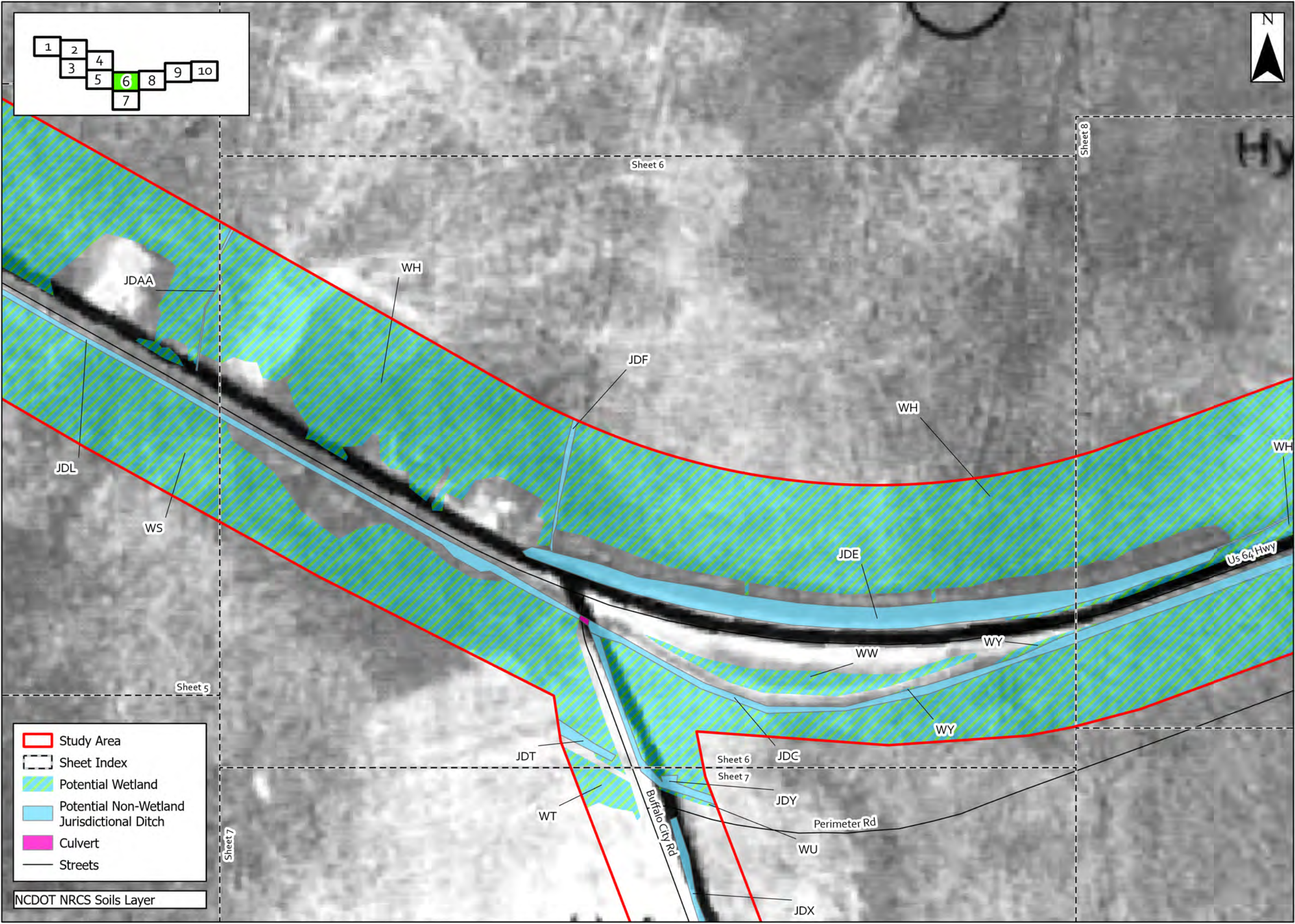
Job No.: 26-600

Drawn By: KEMS
Checked By: DGC

Figure

5

Sheet 4



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
NRCS Soils

Dare County,
North Carolina

Date: June 2026

0 150 300
Feet

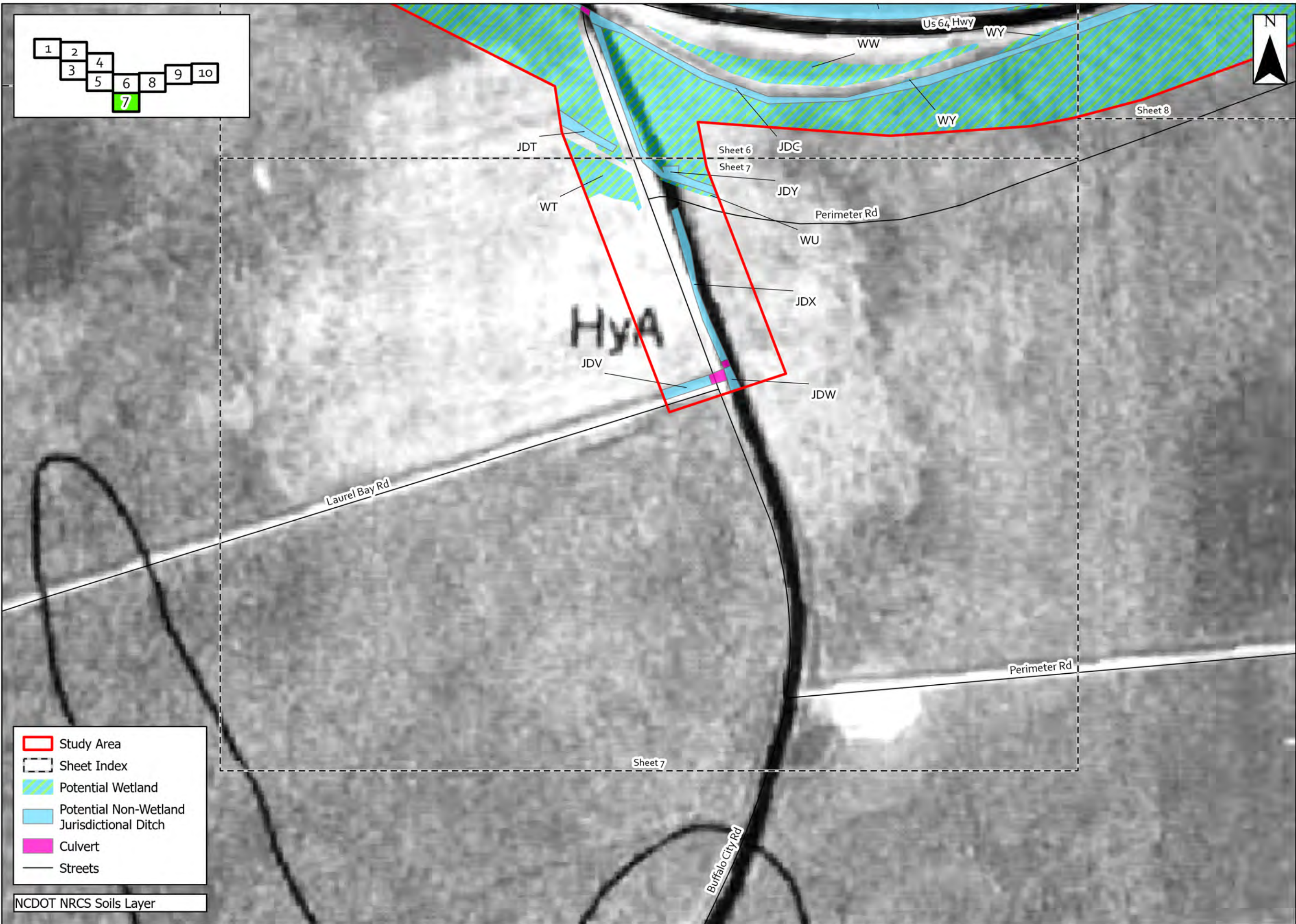
Job No.: 26-600

Drawn By: KEMS	Checked By: DGC
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Figure

5

Sheet 6



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
NRCS Soils

Dare County,
North Carolina

Date: June 2026

0 150 300
Feet

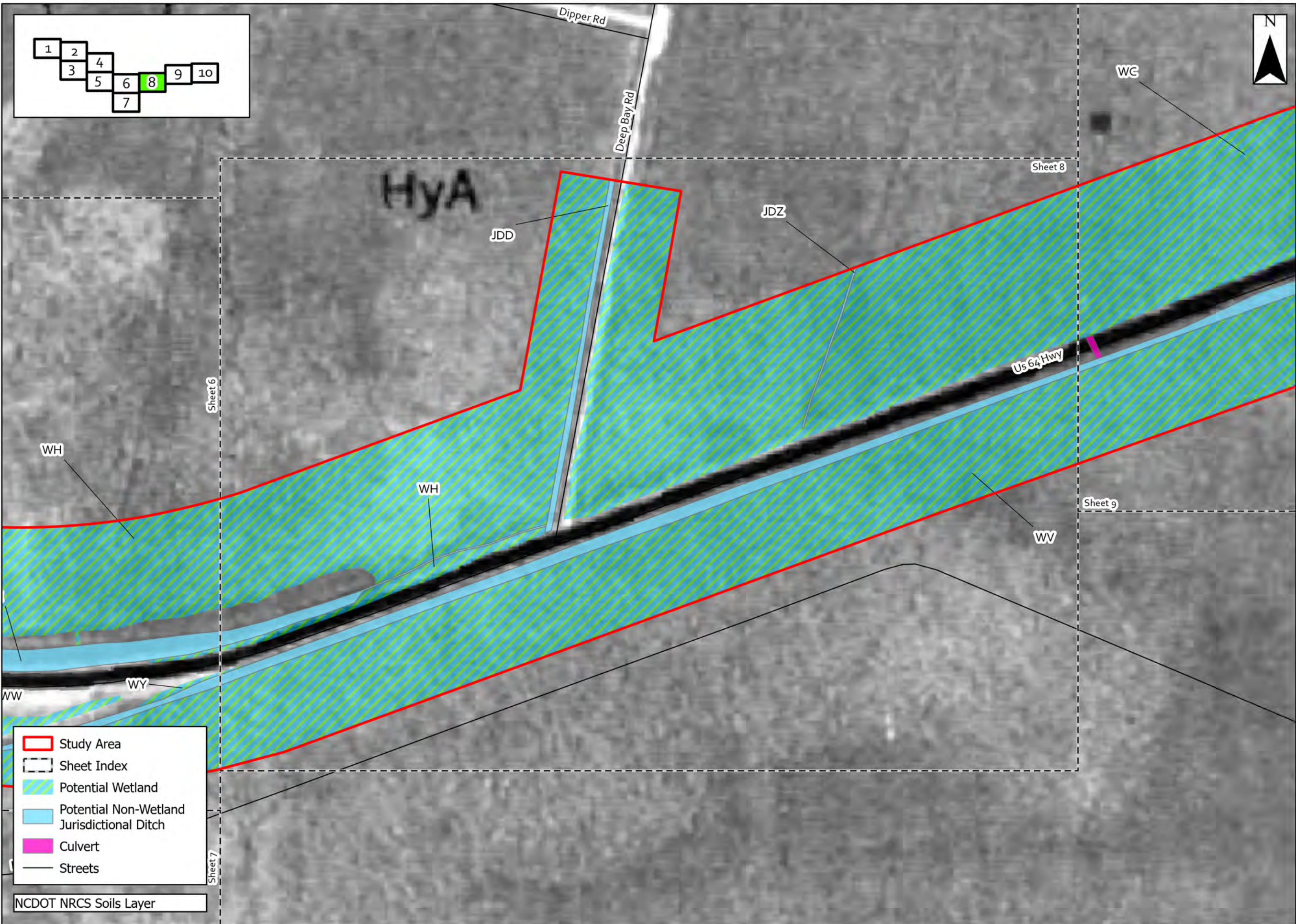
Job No.: 26-600

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Checked By: DGC

Figure

5

Sheet 7



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
NRCS Soils

Dare County,
North Carolina

Date: June 2026

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Feet

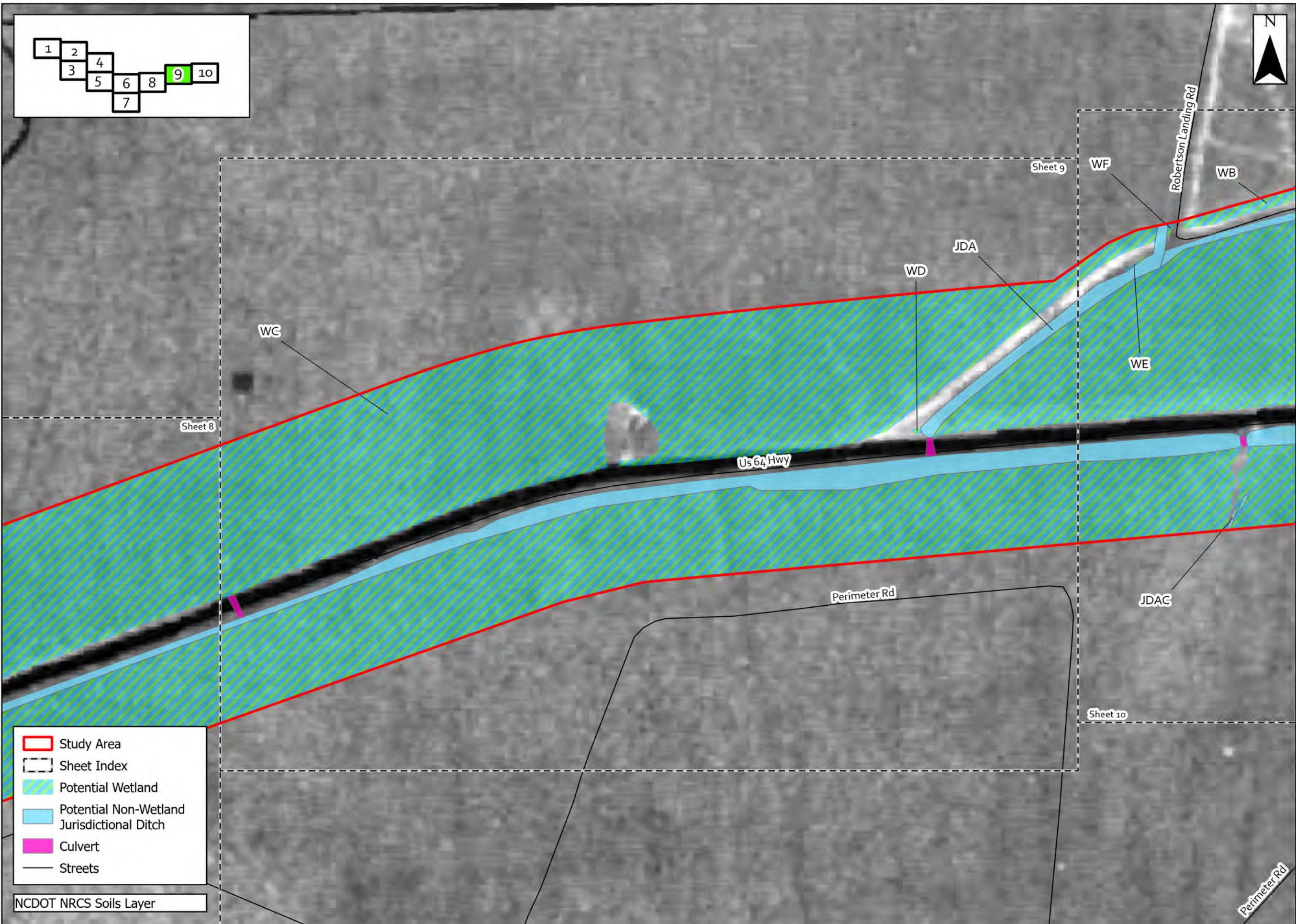
Job No.: 26-600

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Checked By: DGC

Figure

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Sheet 8



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
NRCS Soils

Dare County,
North Carolina

Date: June 2026

0 150 300
Feet

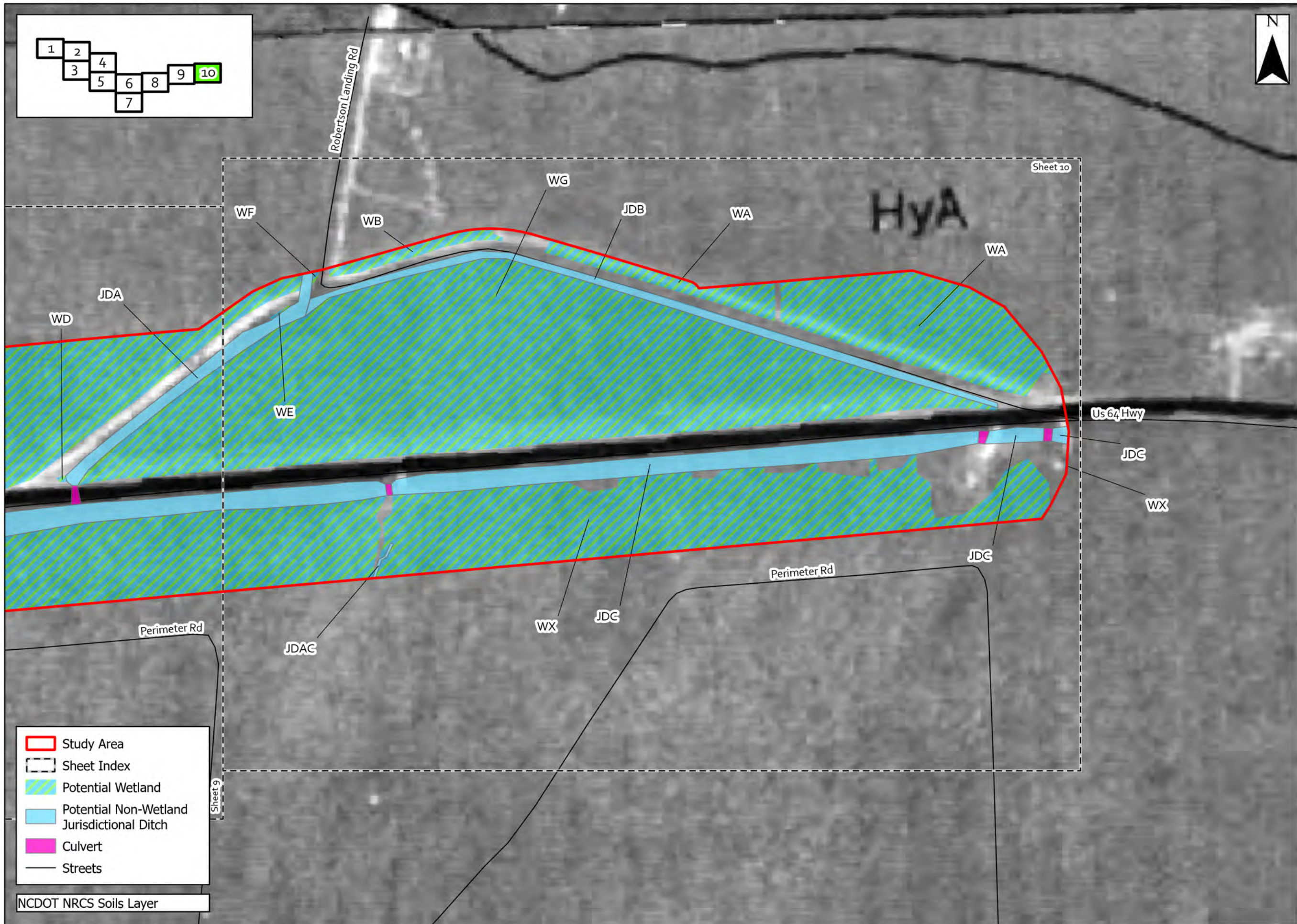
Job No.: 26-600

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Figure

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Sheet 9



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
NRCS Soils

Dare County,
North Carolina

Date: June 2026

0 150 300
Feet

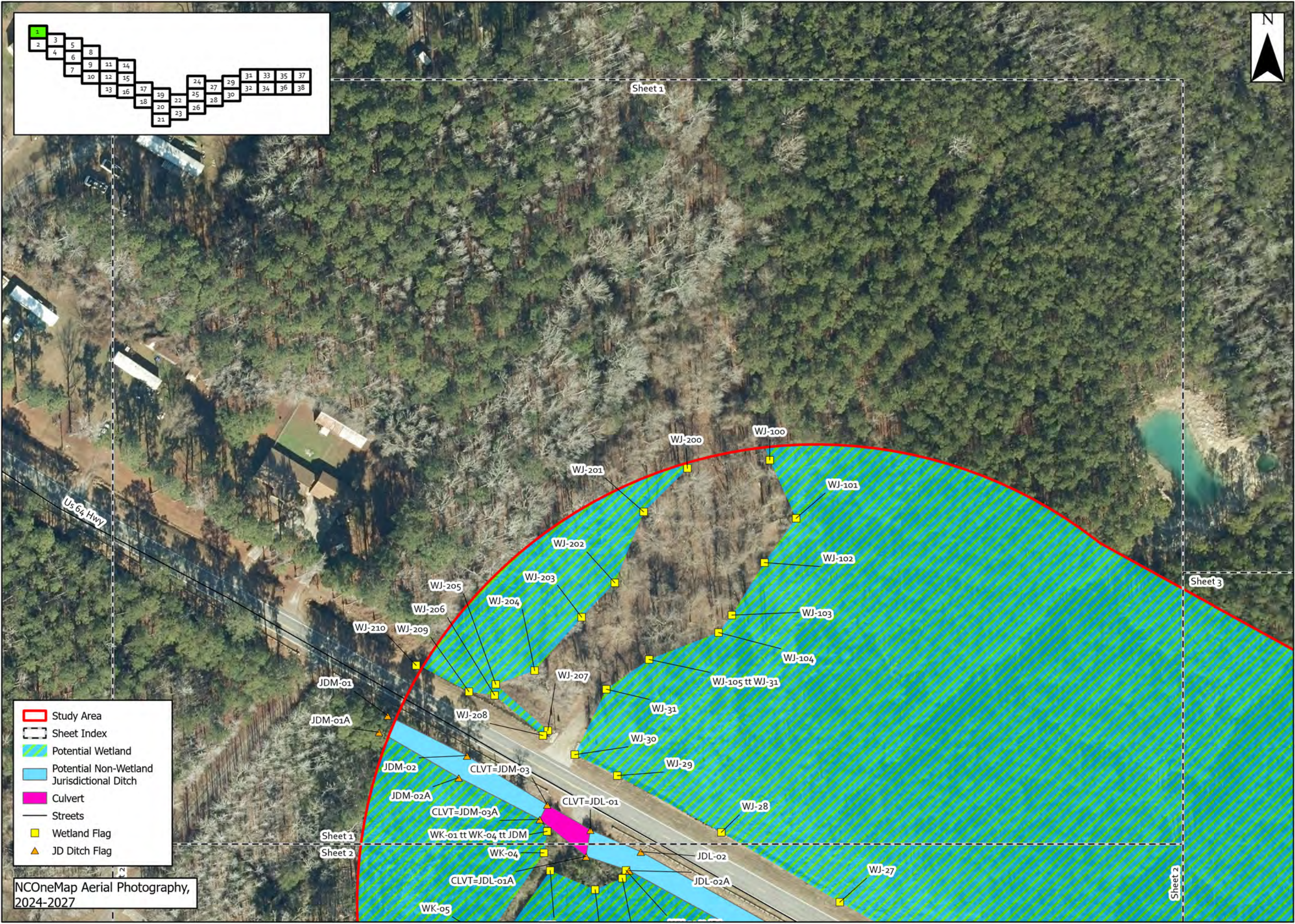
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Figure

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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
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West of Robertson
Landing Road
(SR 1169)

Water Resources -
Flag Locations

Dare County,
North Carolina

Date: June 2026

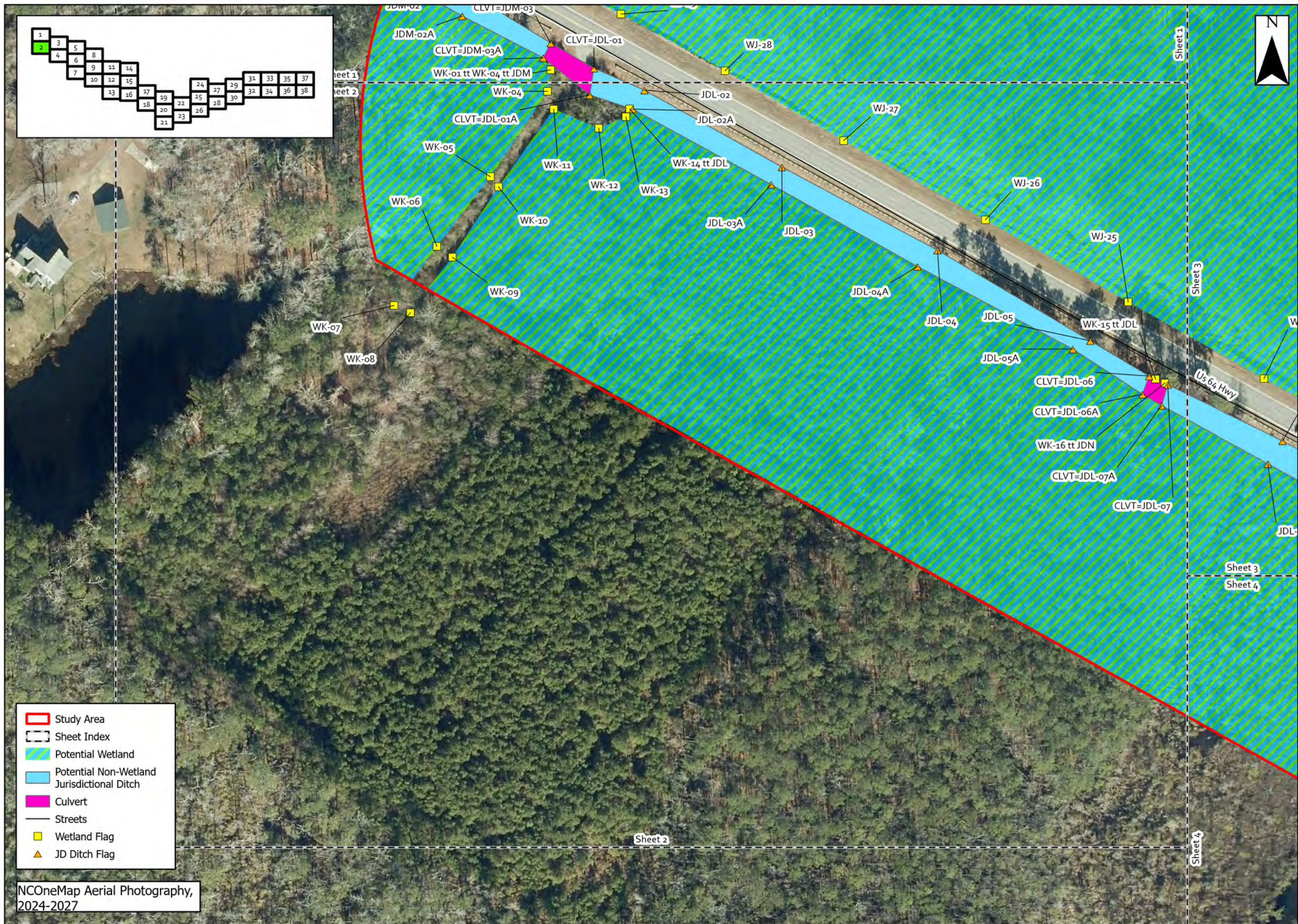
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Job No.: 26-600

Drawn By: KEMS	Checked By: DGC
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Figure

6
Sheet 1



- Study Area
- Sheet Index
- Potential Wetland
- Potential Non-Wetland Jurisdictional Ditch
- Culvert
- Streets
- Wetland Flag
- JD Ditch Flag

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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
Flag Locations

Dare County,
North Carolina

Date: June 2026

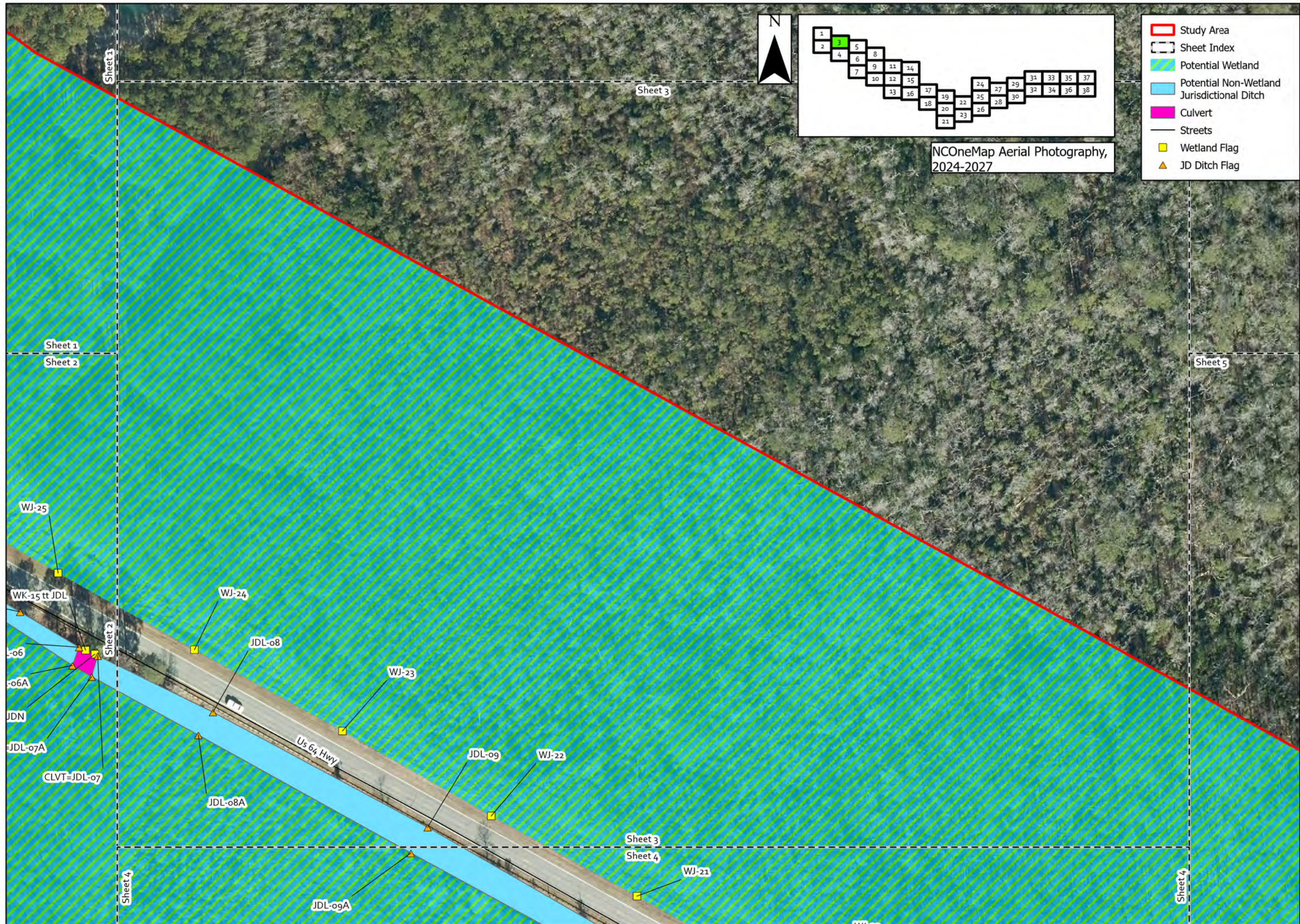
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Job No.: 26-600

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Figure

6
Sheet 2



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
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Dare County,
North Carolina

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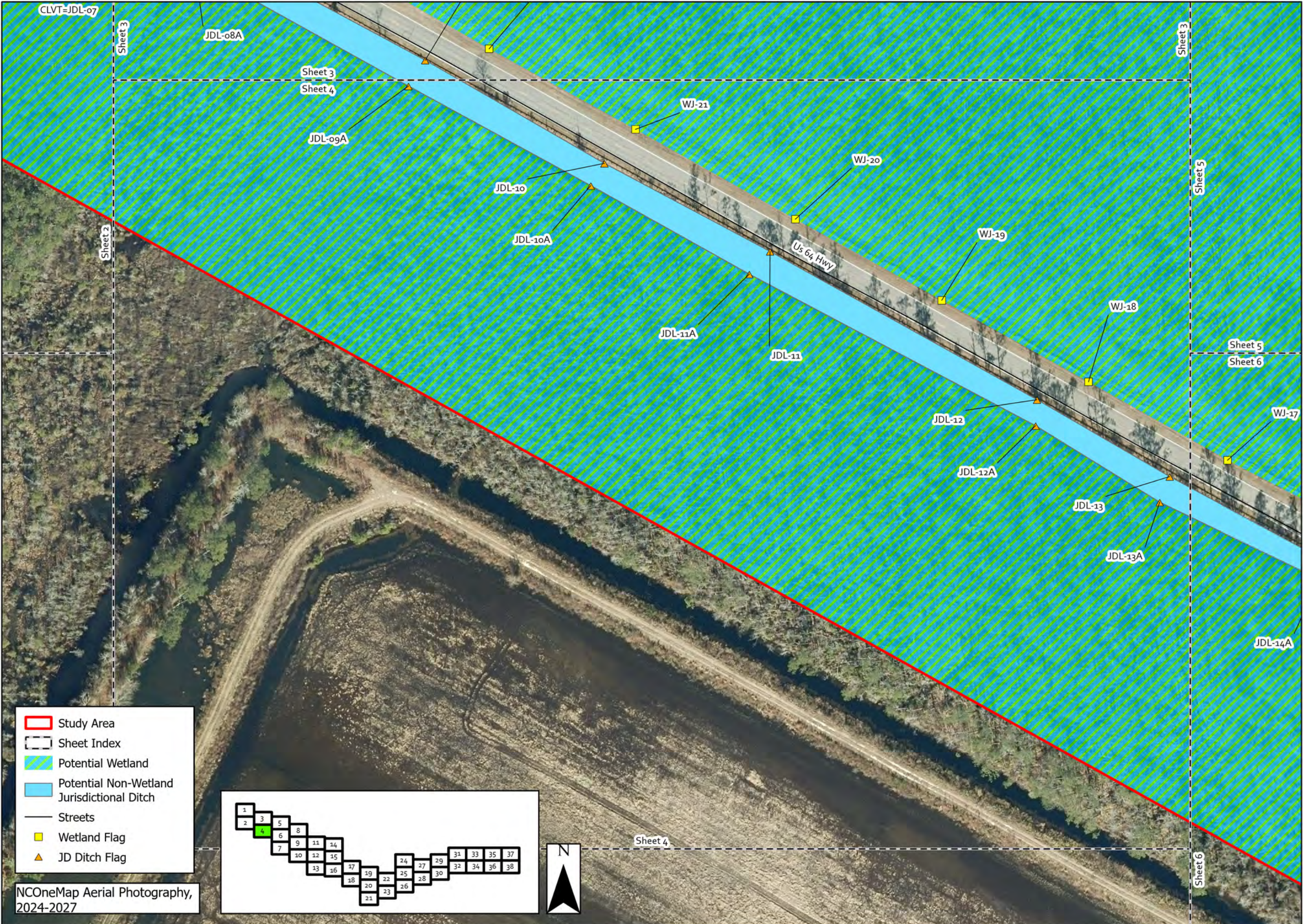
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Checked By: DGC

Figure

6

Sheet 3



HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

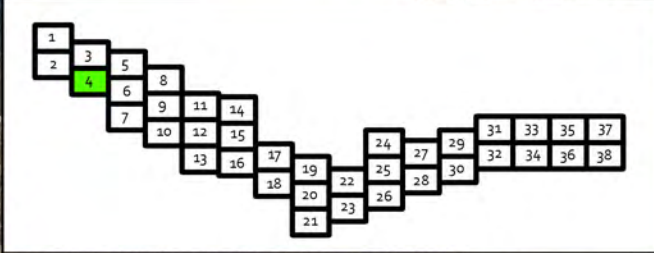
Water Resources -
Flag Locations

Dare County,
North Carolina

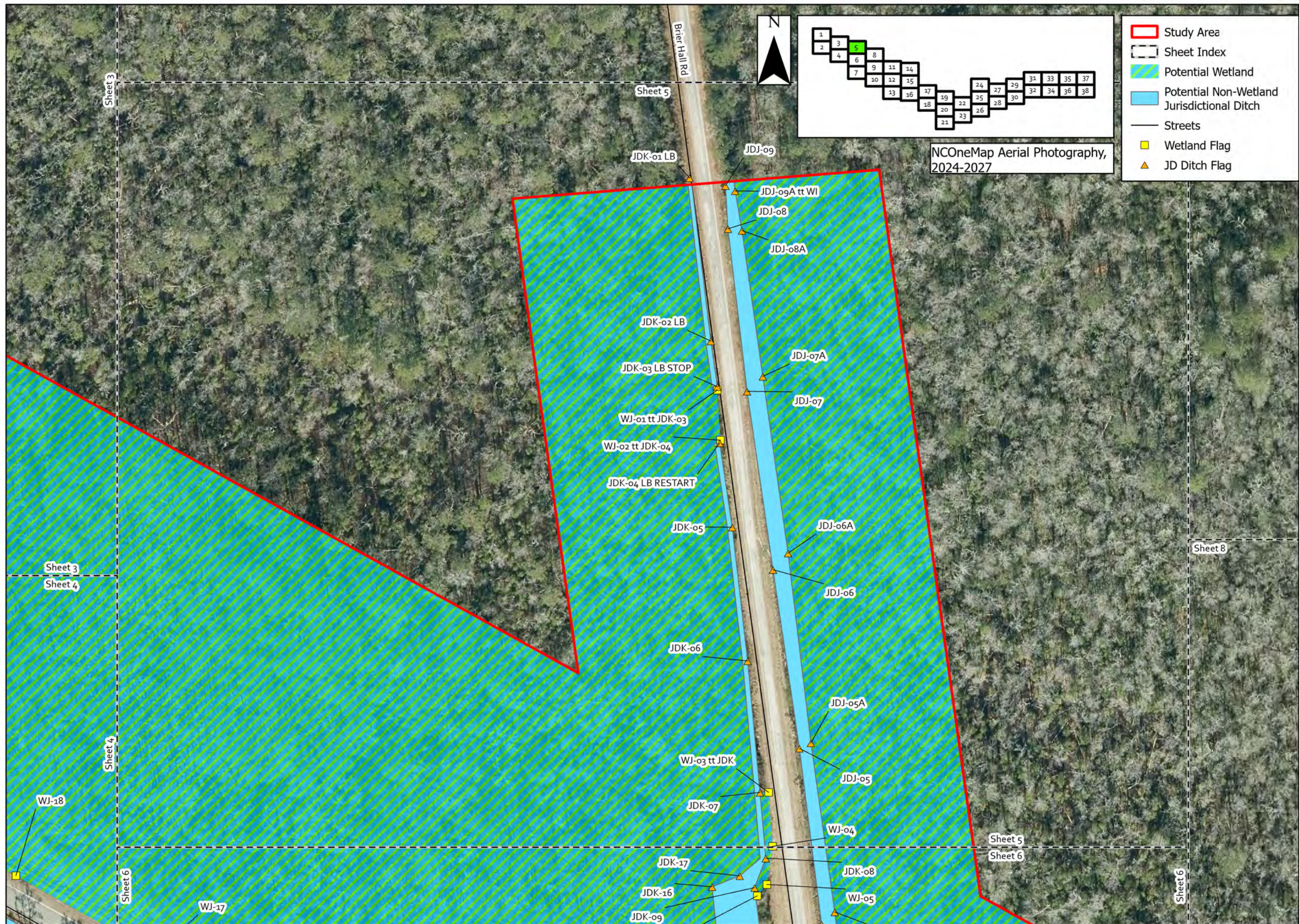
Date:	June 2026
Job No.:	26-600
Drawn By:	Checked By:
KEMS	DGC

Figure
6
Sheet 4

- Study Area
- Sheet Index
- Potential Wetland
- Potential Non-Wetland Jurisdictional Ditch
- Streets
- Wetland Flag
- JD Ditch Flag



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
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Dare County,
North Carolina

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Feet

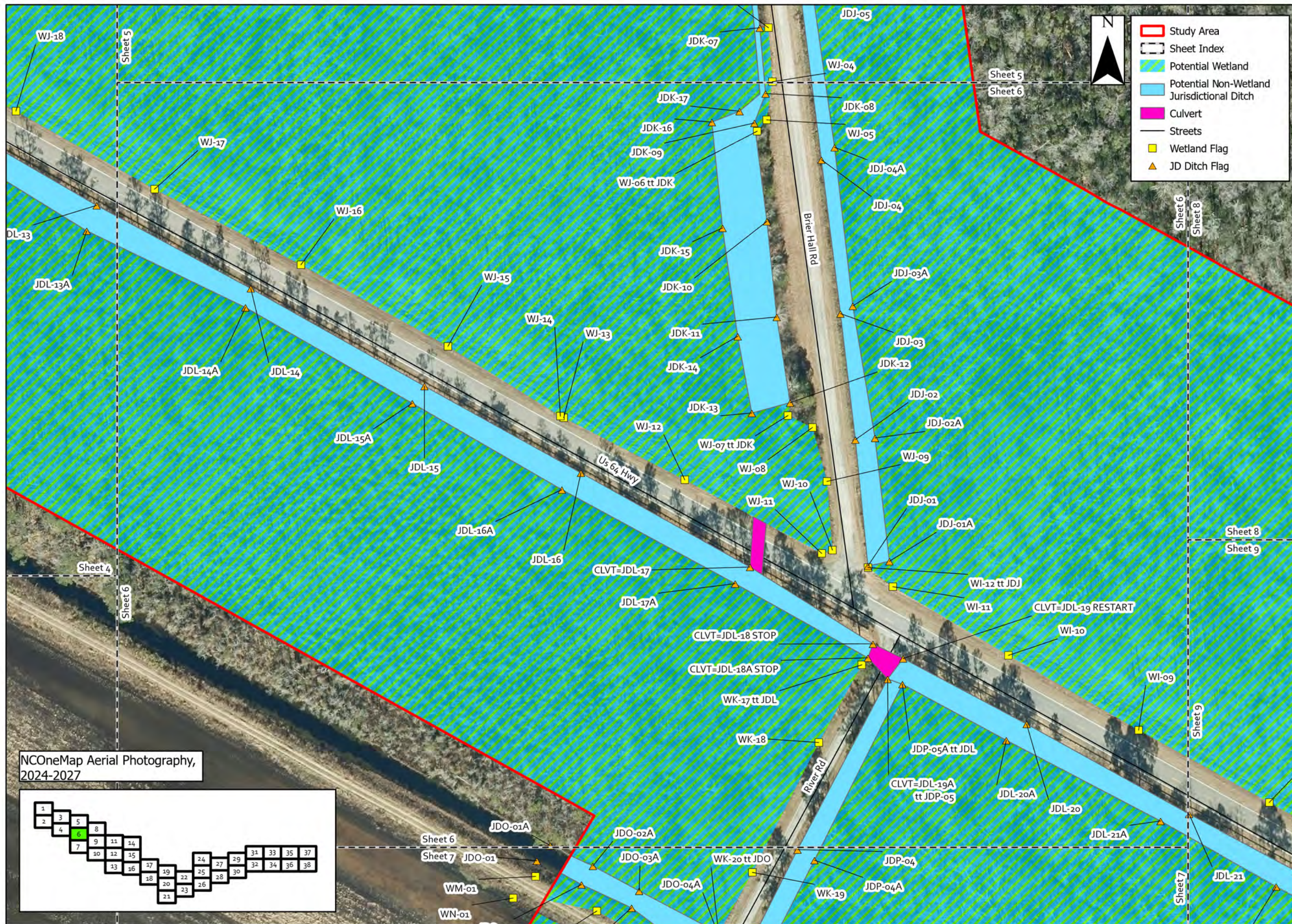
Job No.: 26-600

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Figure

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Sheet 5



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
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Water Resources -
Flag Locations

Dare County,
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Feet

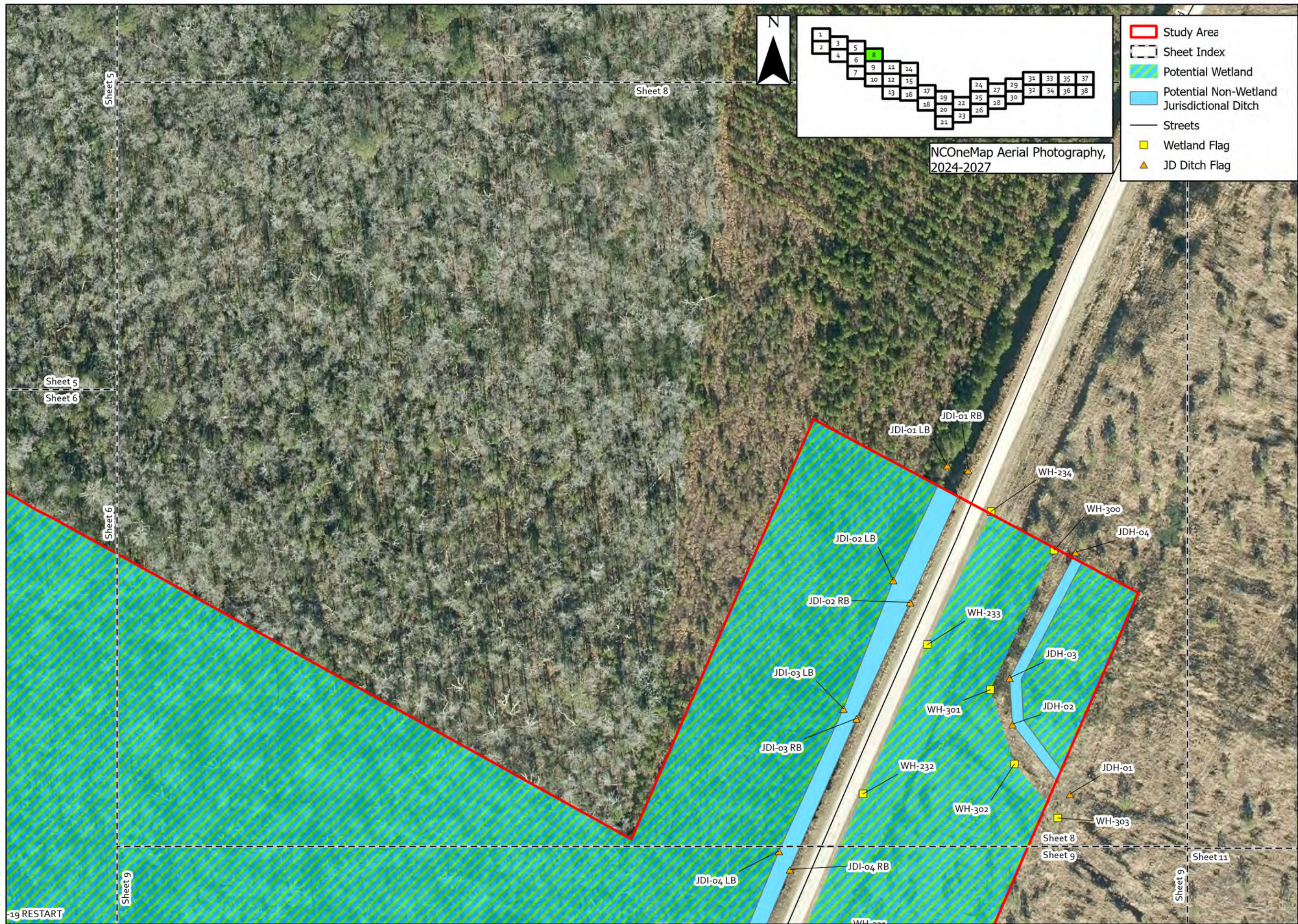
Job No.: 26-600

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Figure

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Sheet 6



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HO-0027: US 64
Wildlife Crossings
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East Lake
Community to
West of Robertson
Landing Road
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Water Resources -
Flag Locations

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Feet

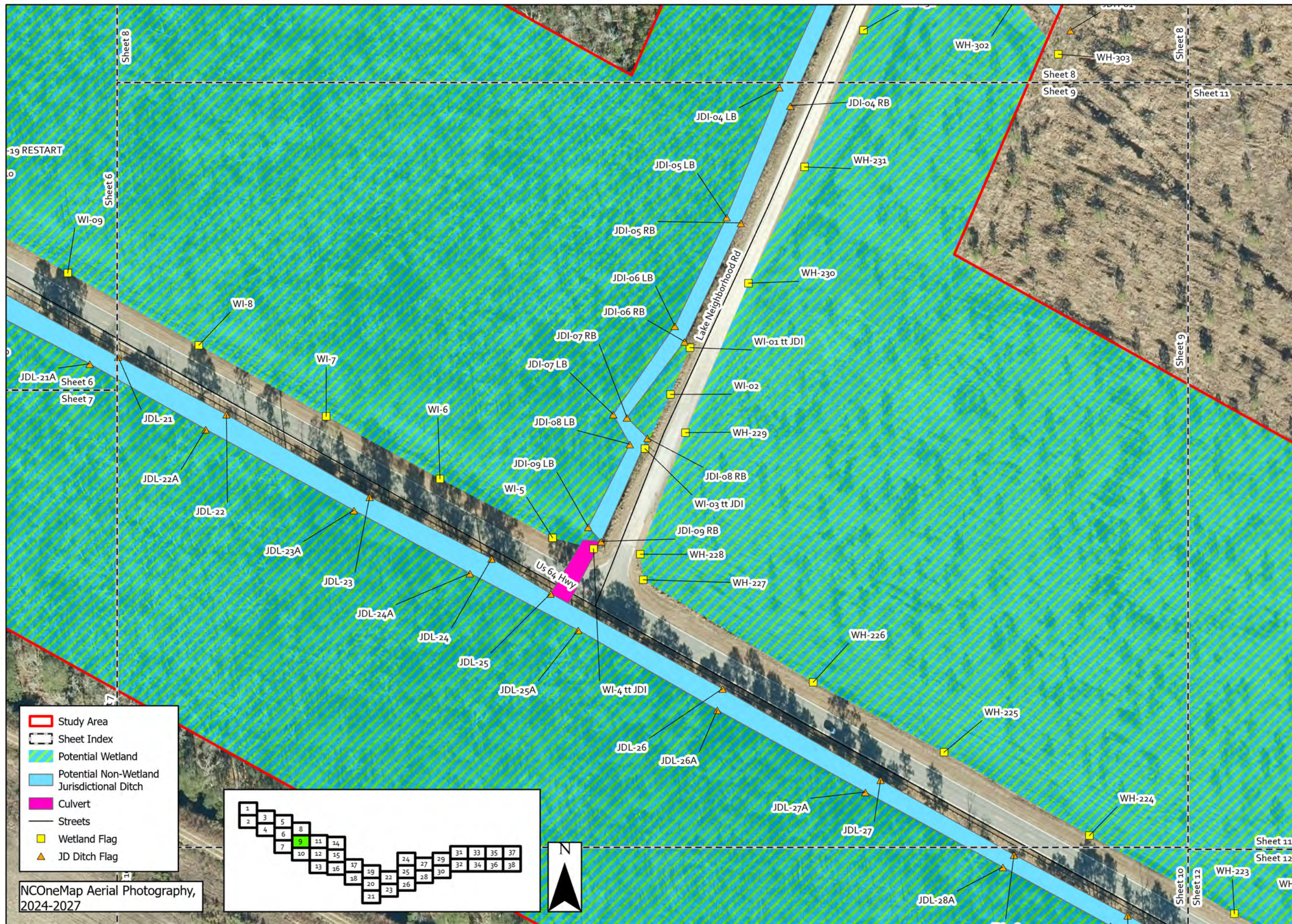
Job No.: 26-600

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Figure

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Sheet 8



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
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Flag Locations

Dare County,
North Carolina

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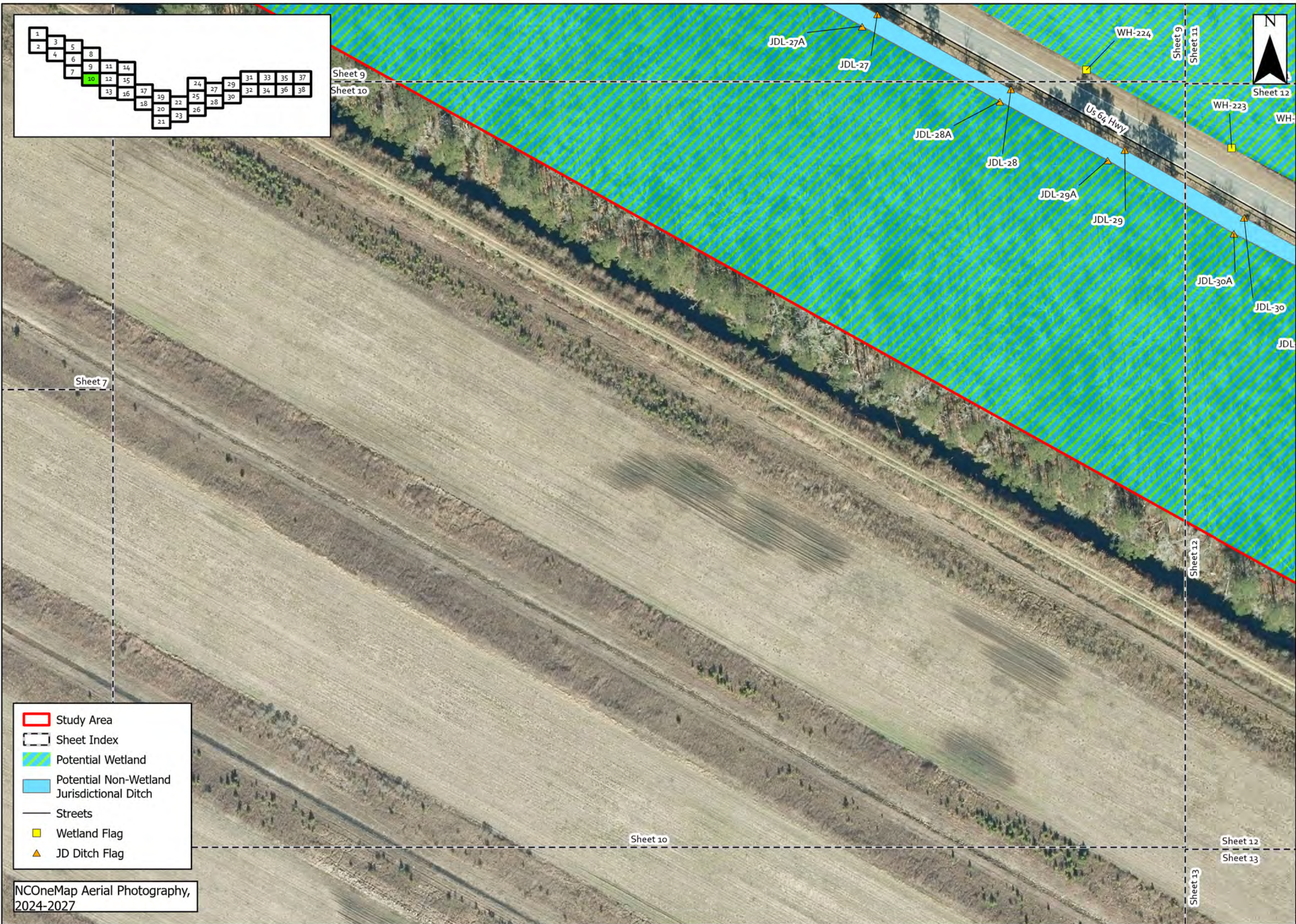
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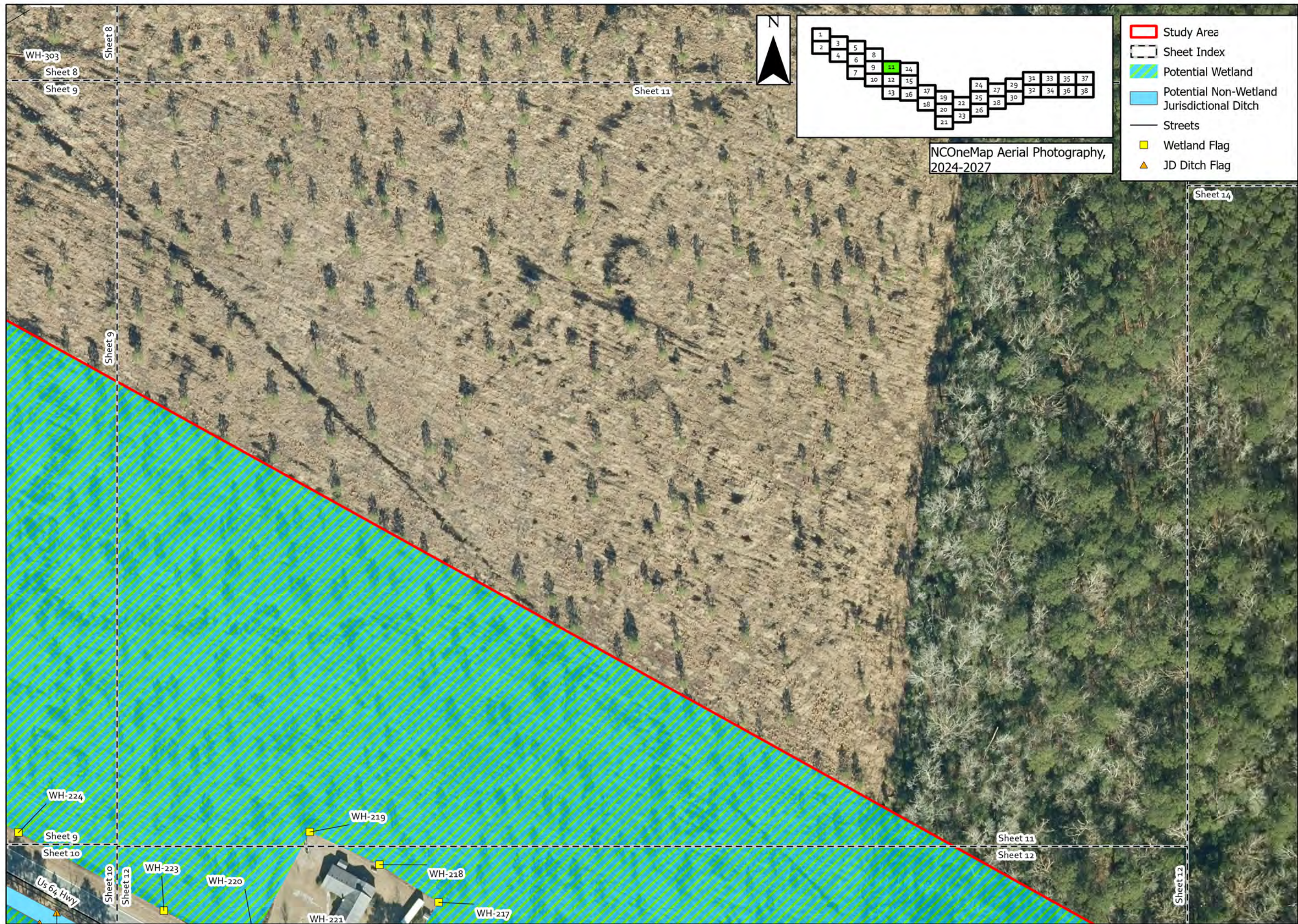
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Checked By: DGC

Figure

6

Sheet 9





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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
Flag Locations

Dare County,
North Carolina

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0 50 100
Feet

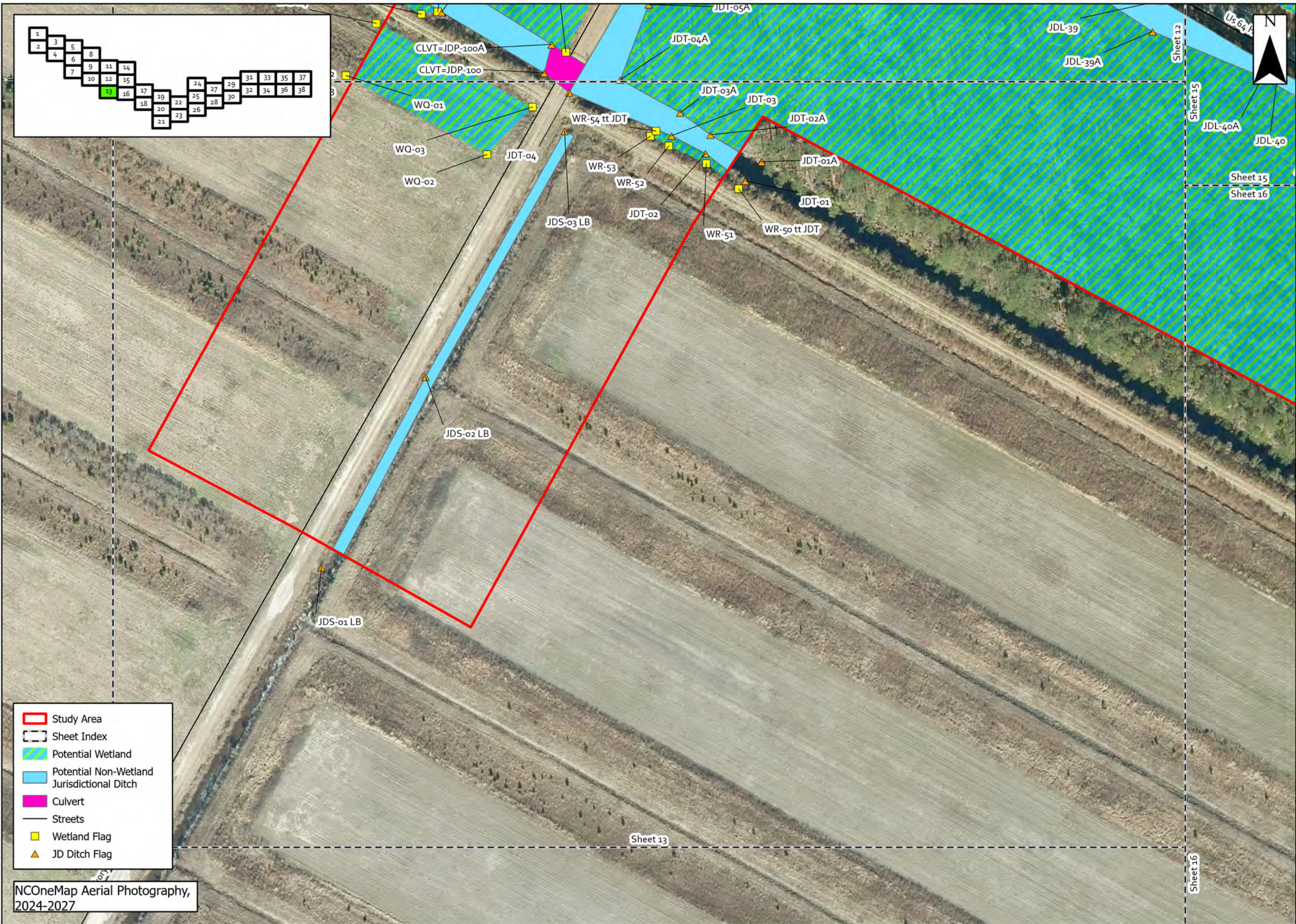
Job No.: 26-600

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Figure

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Sheet 11



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HO-0027: US 64
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0 50 100
Feet

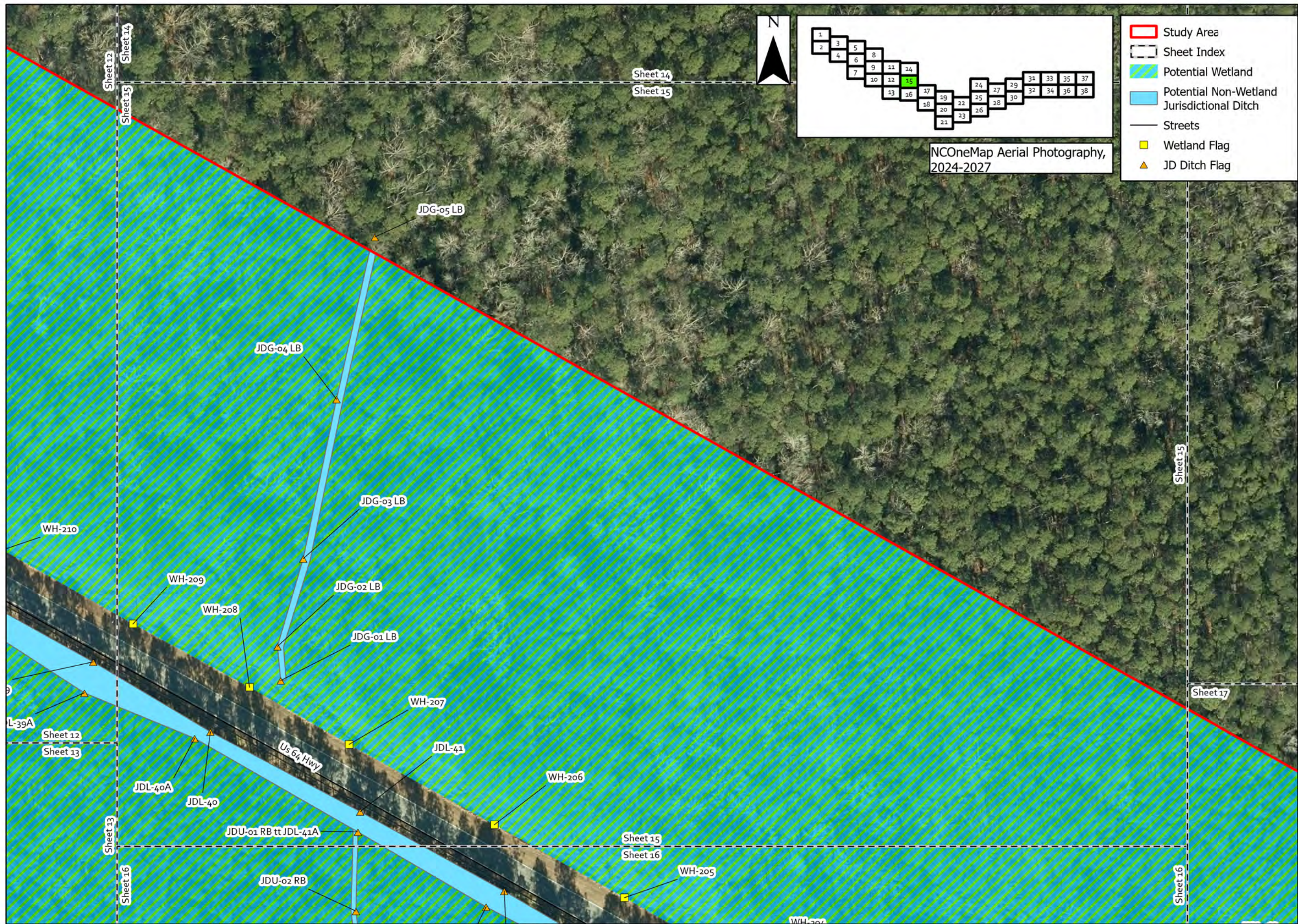
Job No.: 26-600

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Checked By: DGC

Figure

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Sheet 13



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- Study Area
- Sheet Index
- Potential Wetland
- Potential Non-Wetland Jurisdictional Ditch
- Streets
- Wetland Flag
- JD Ditch Flag



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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
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Flag Locations

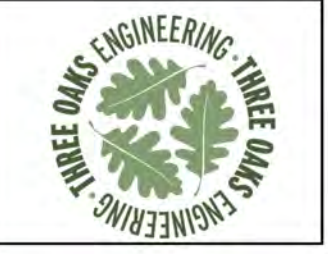
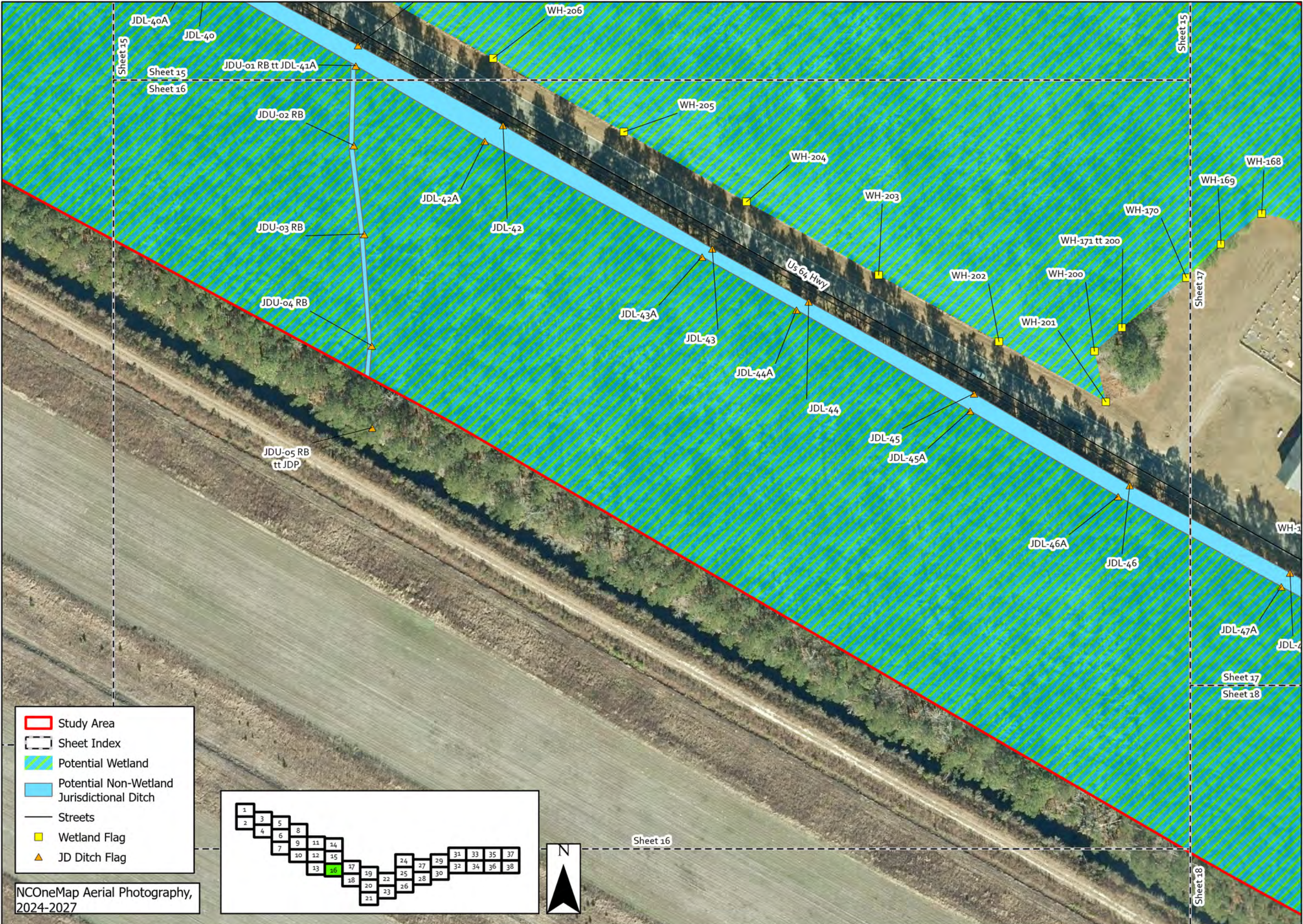
Dare County,
North Carolina

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Job No.:	26-600
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KEMS	DGC

Figure

6

Sheet 15



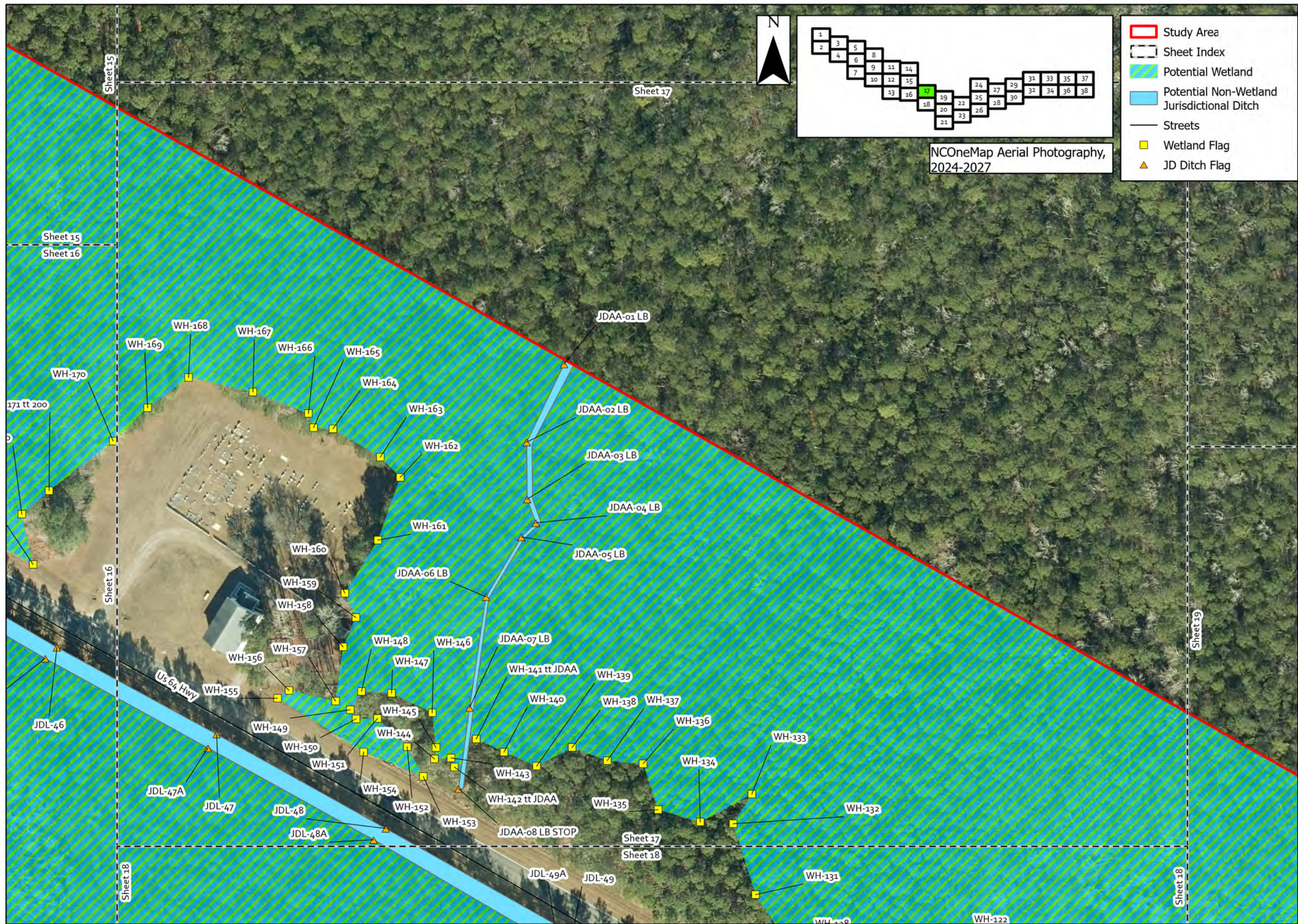
HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
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Flag Locations

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HO-0027: US 64
Wildlife Crossings
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East Lake
Community to
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Water Resources -
Flag Locations

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North Carolina

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0 50 100
Feet

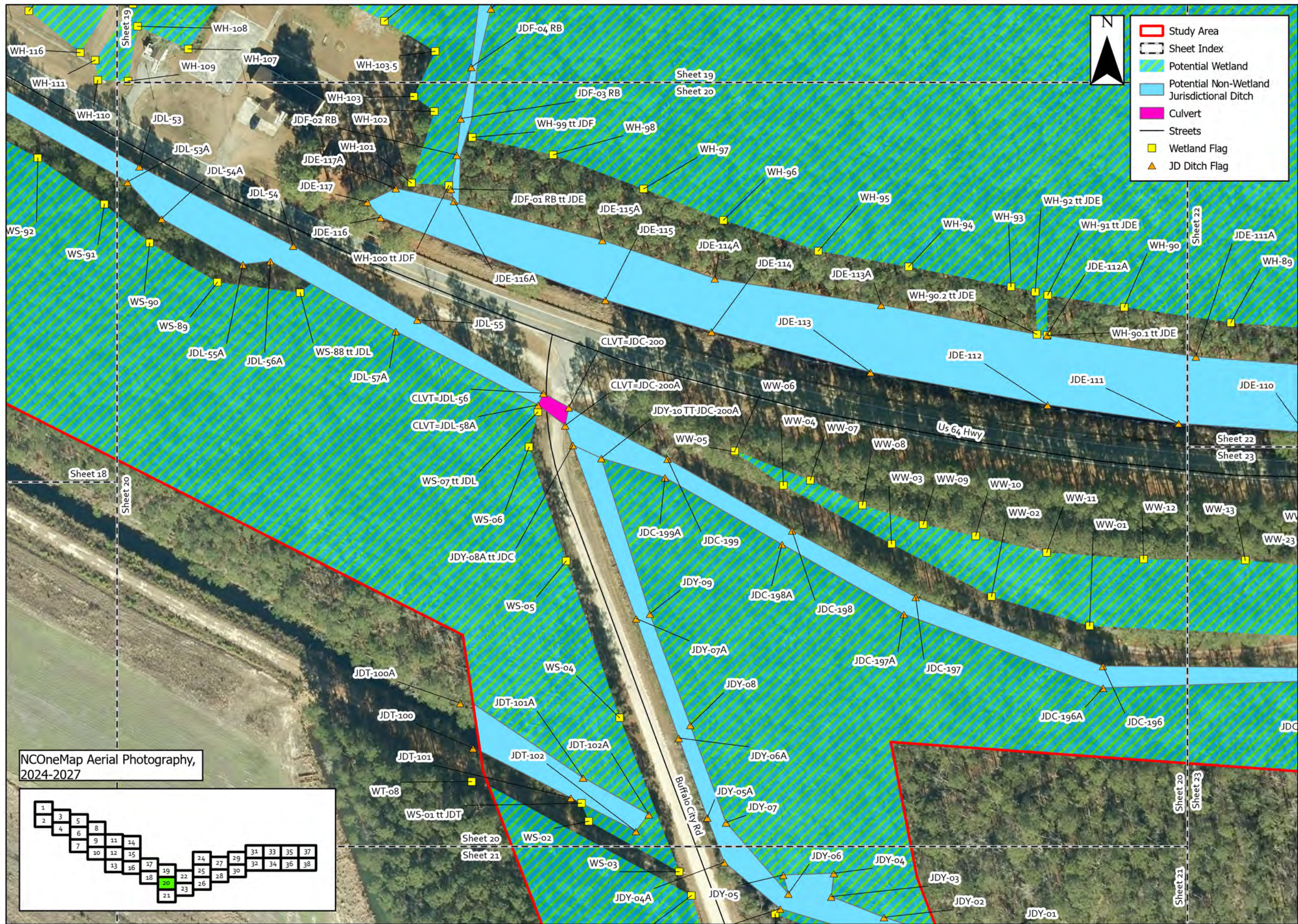
Job No.: 26-600

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Figure

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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

Water Resources -
Flag Locations

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North Carolina

Date: June 2026

0 50 100
Feet

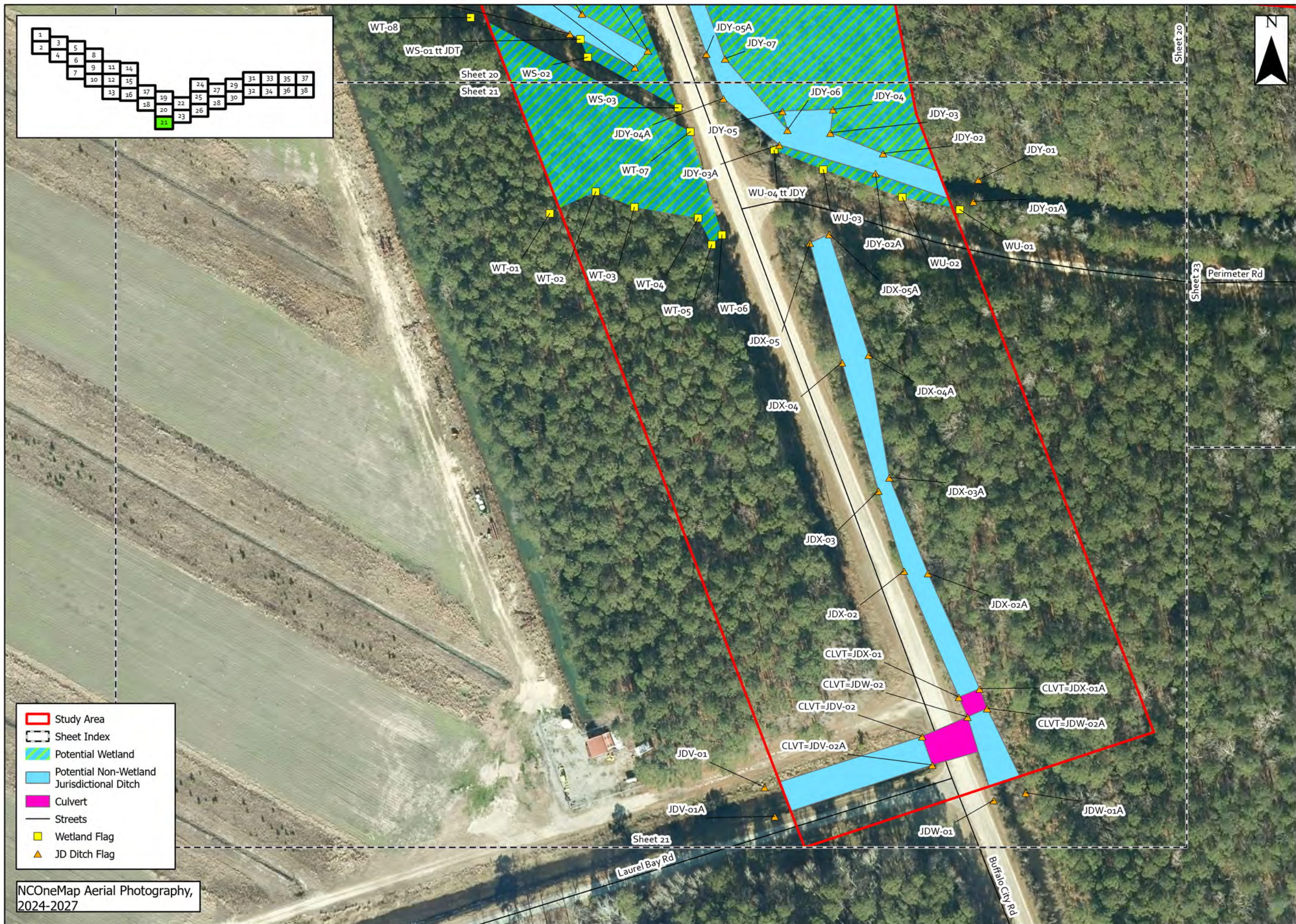
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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
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Water Resources -
Flag Locations

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0 50 100
Feet

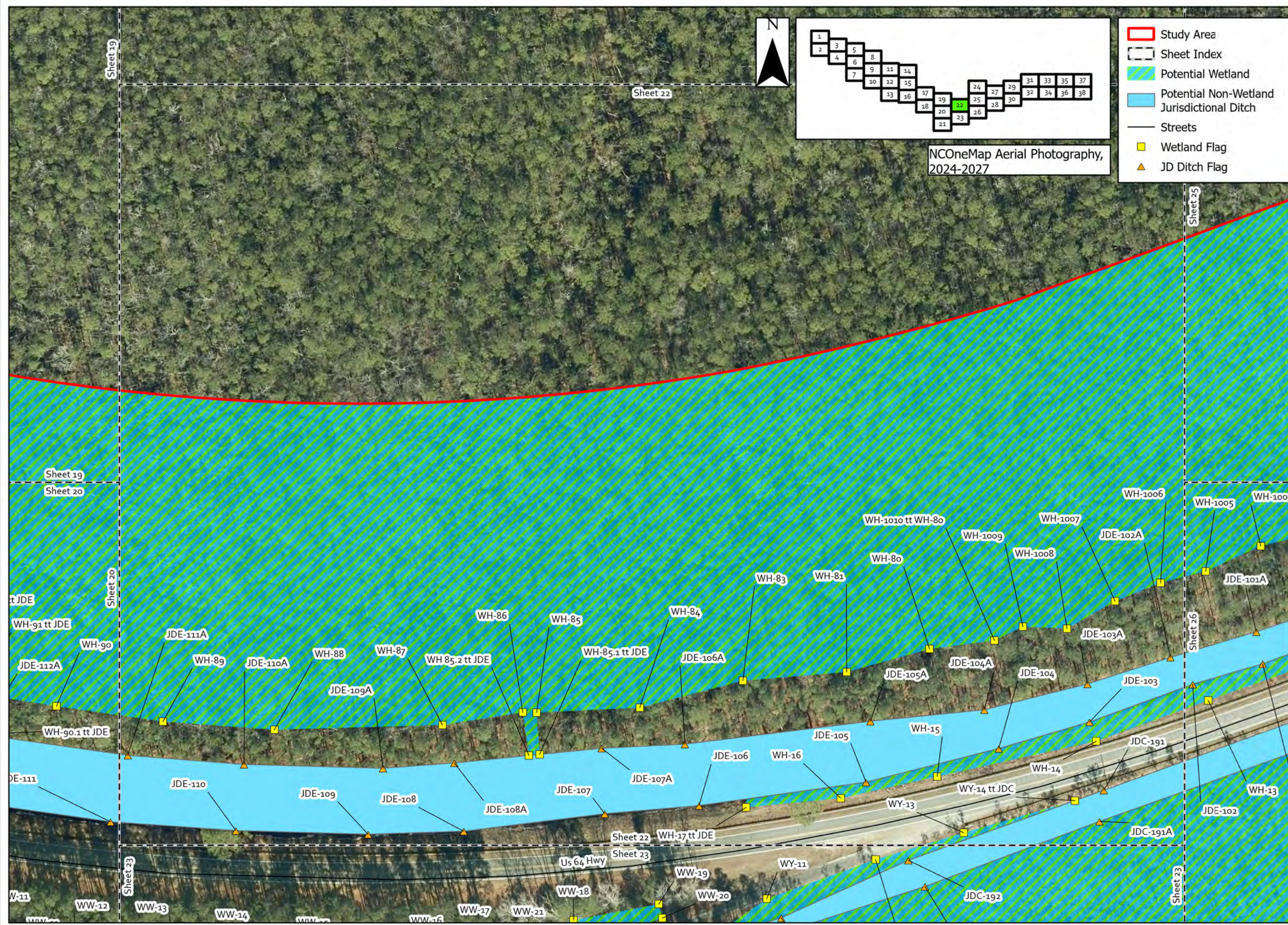
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Figure

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Sheet 21



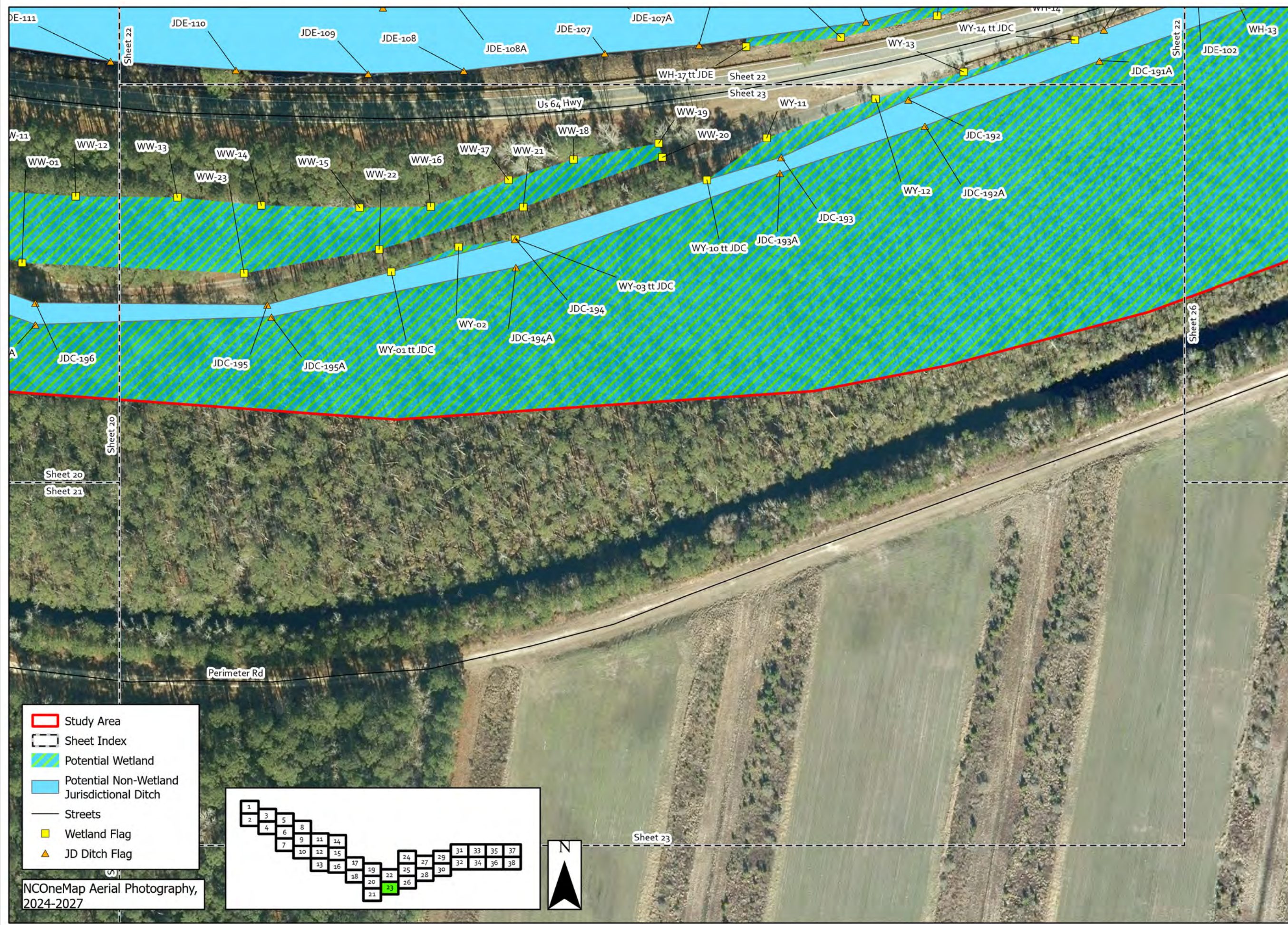
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Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
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Flag Locations

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North Carolina

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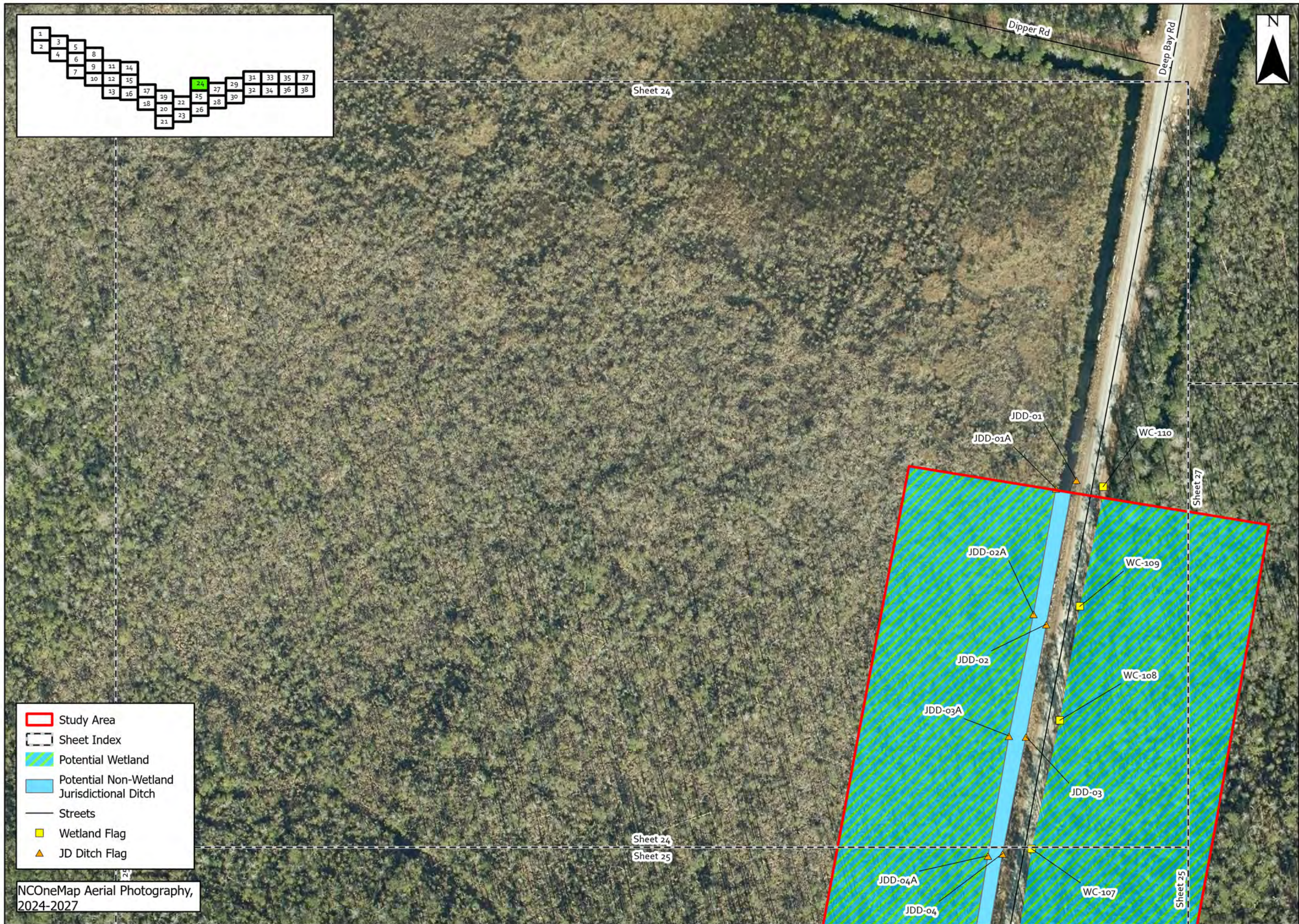
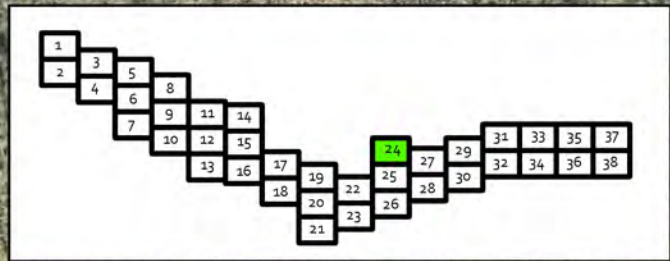
HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
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Flag Locations

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0 50 100 Feet	
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- Study Area
- Sheet Index
- Potential Wetland
- Potential Non-Wetland Jurisdictional Ditch
- Streets
- Wetland Flag
- JD Ditch Flag

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HO-0027: US 64
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0 50 100
Feet

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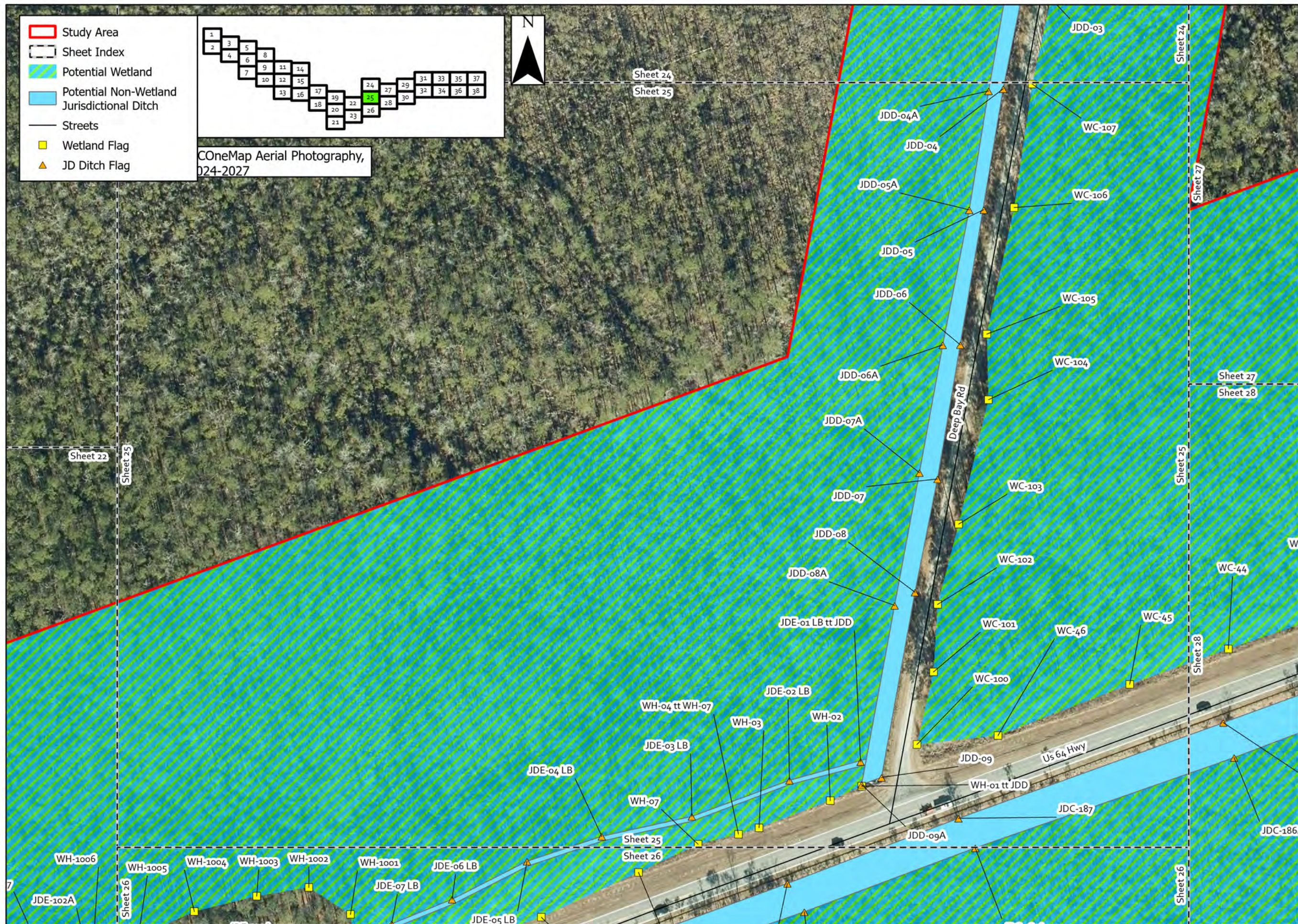
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KEMS

Checked By:
DGC

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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
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Water Resources -
Flag Locations

Dare County,
North Carolina

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0 50 100
Feet

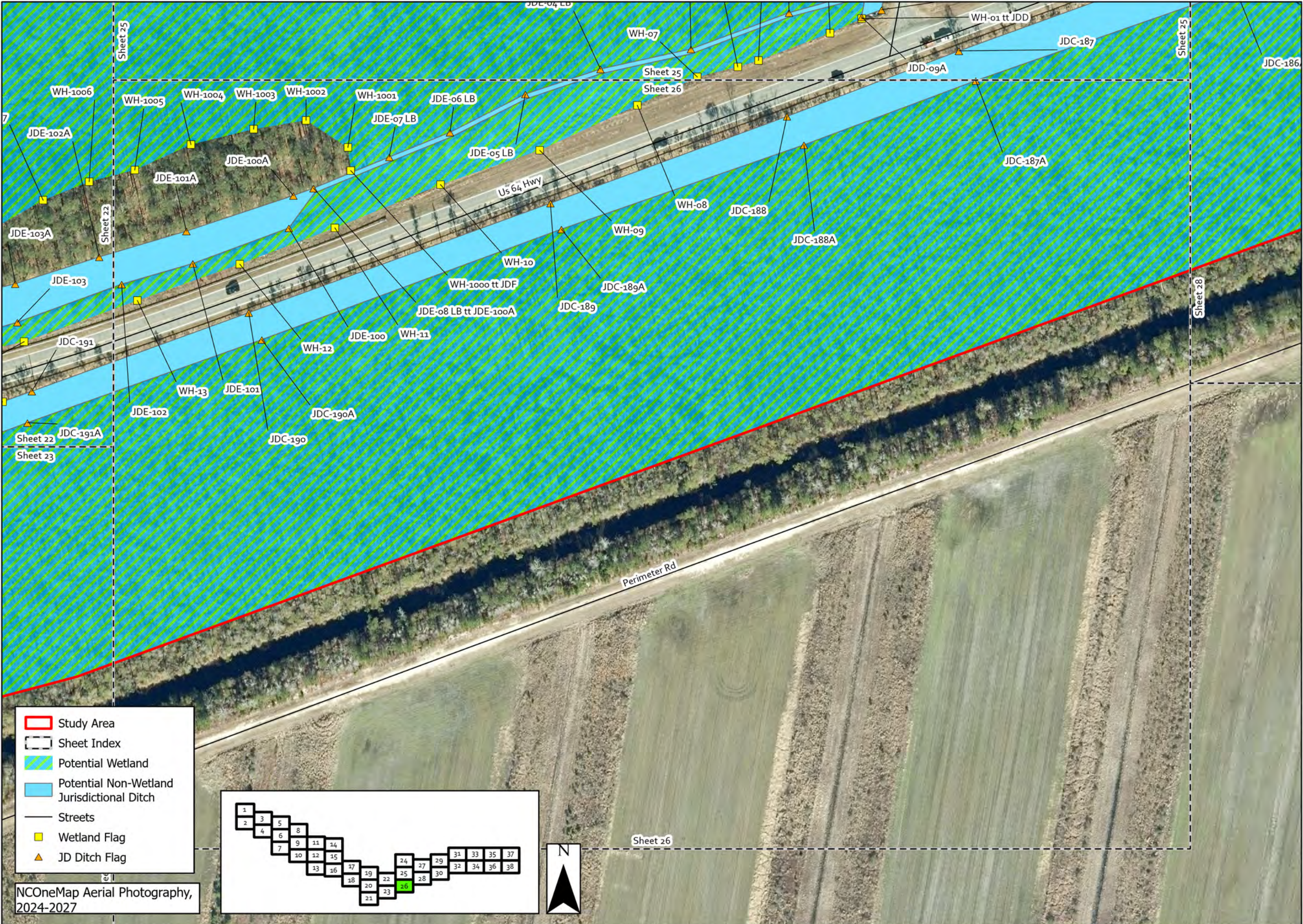
Job No.: 26-600

Drawn By: KEMS
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Figure

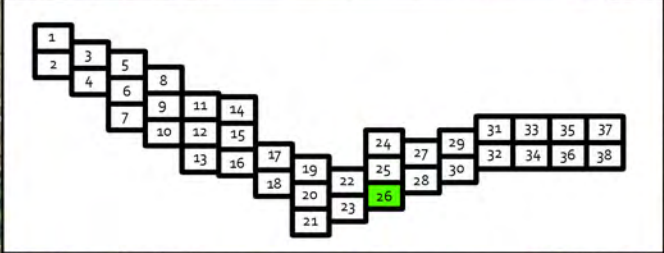
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- Study Area
- Sheet Index
- Potential Wetland
- Potential Non-Wetland
- Jurisdictional Ditch
- Streets
- Wetland Flag
- JD Ditch Flag

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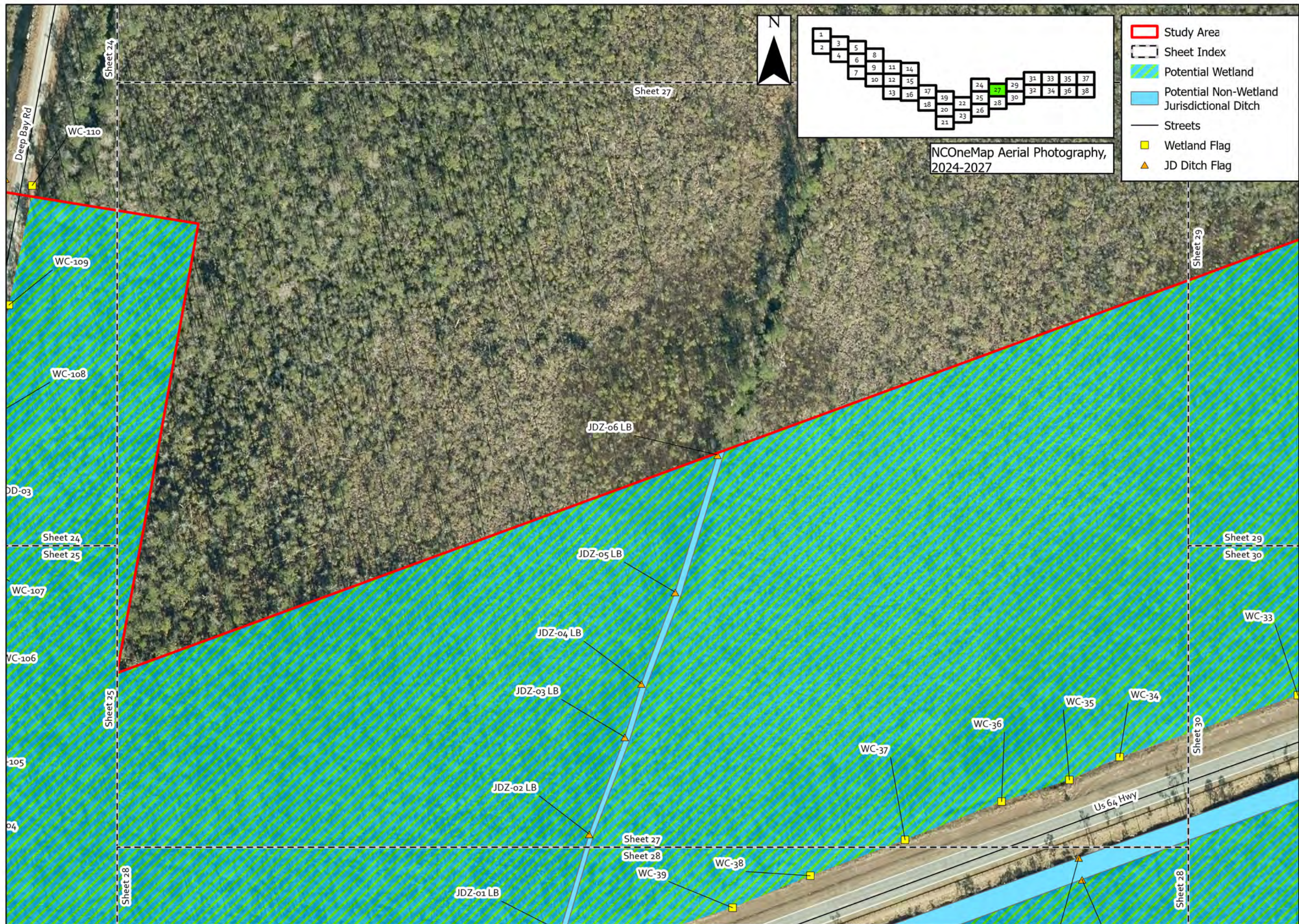
HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
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Landing Road
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0 50 100 Feet	
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US 64 from East of
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Flag Locations

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Feet

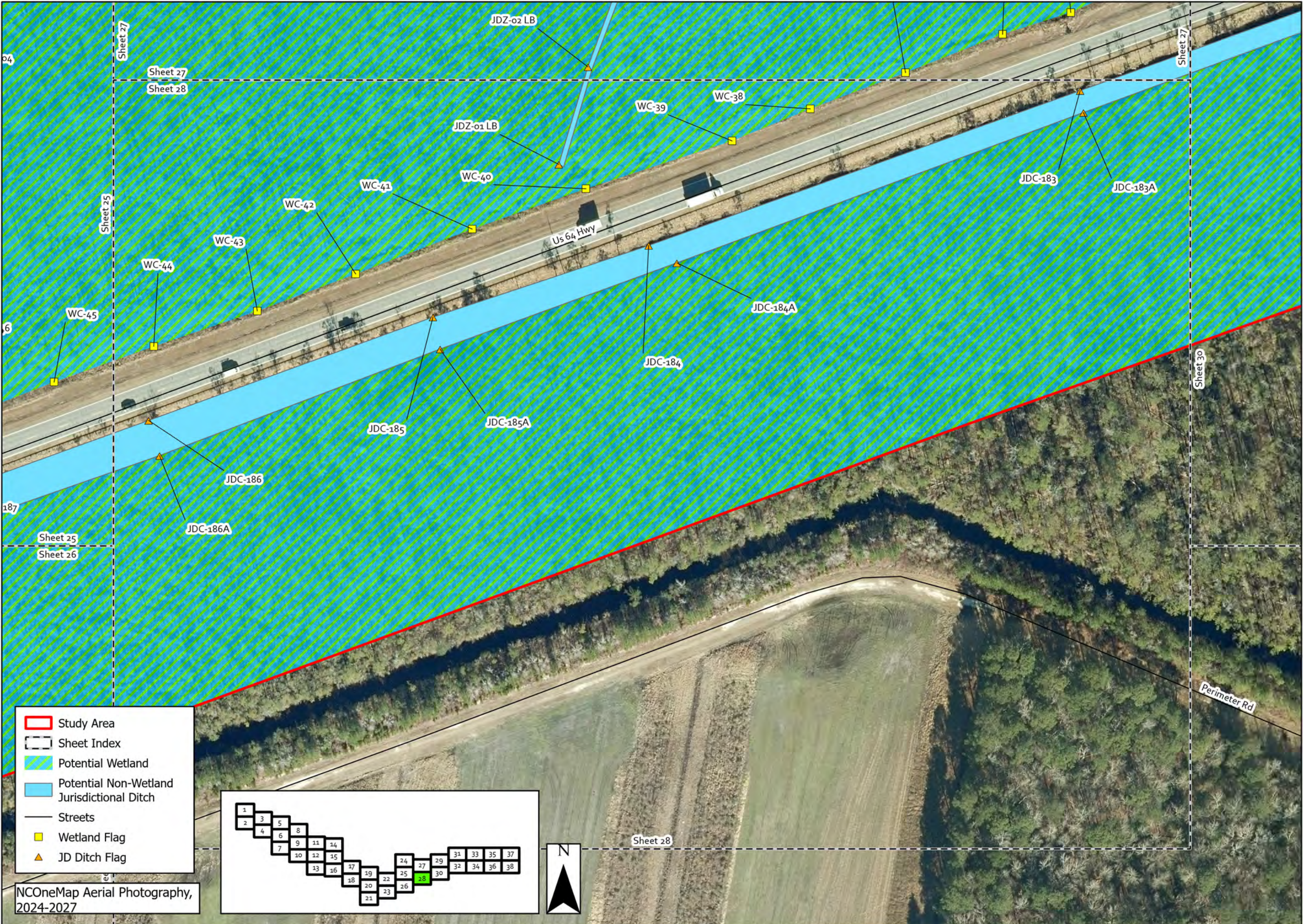
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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
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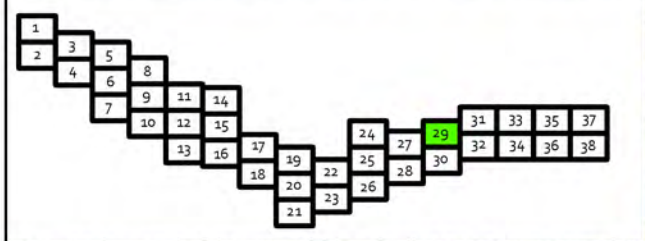
Water Resources -
Flag Locations

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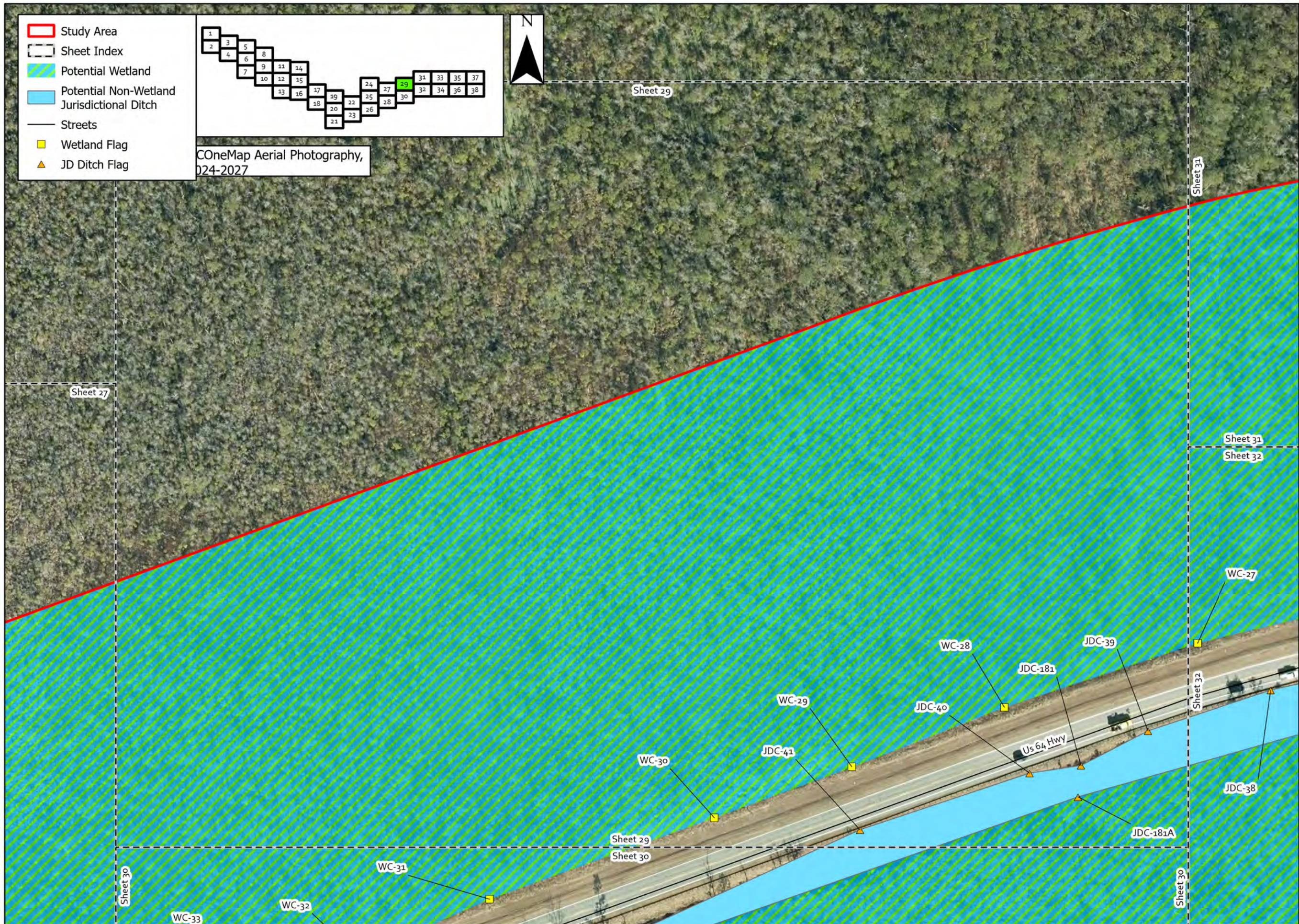
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Job No.:	26-600
Drawn By:	Checked By:
KEMS	DGC

Figure
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Sheet 28

- Study Area
- Sheet Index
- Potential Wetland
- Potential Non-Wetland
- Jurisdictional Ditch
- Streets
- Wetland Flag
- JD Ditch Flag



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0 50 100
Feet

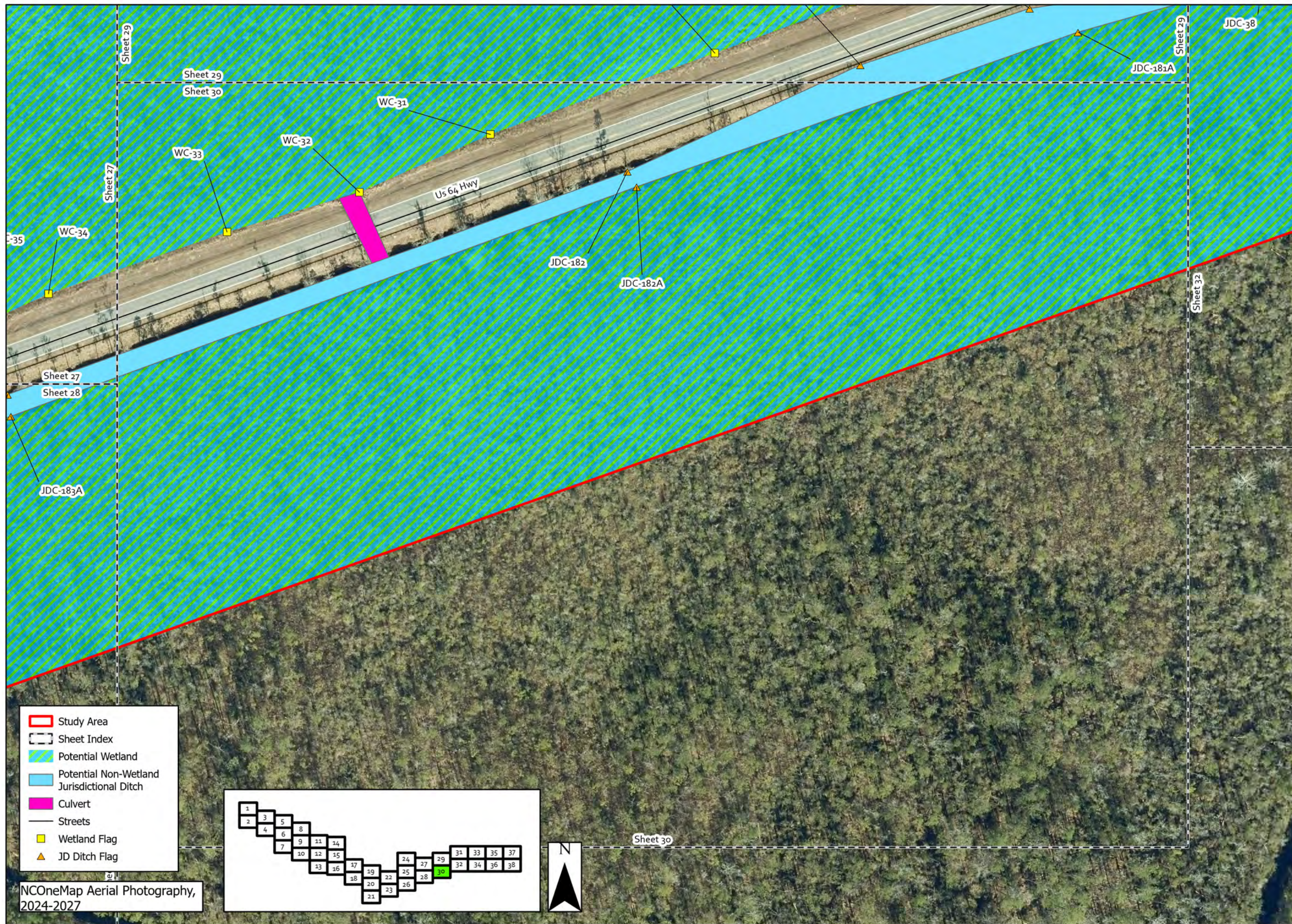
Job No.: 26-600

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HO-0027: US 64
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0 50 100
Feet

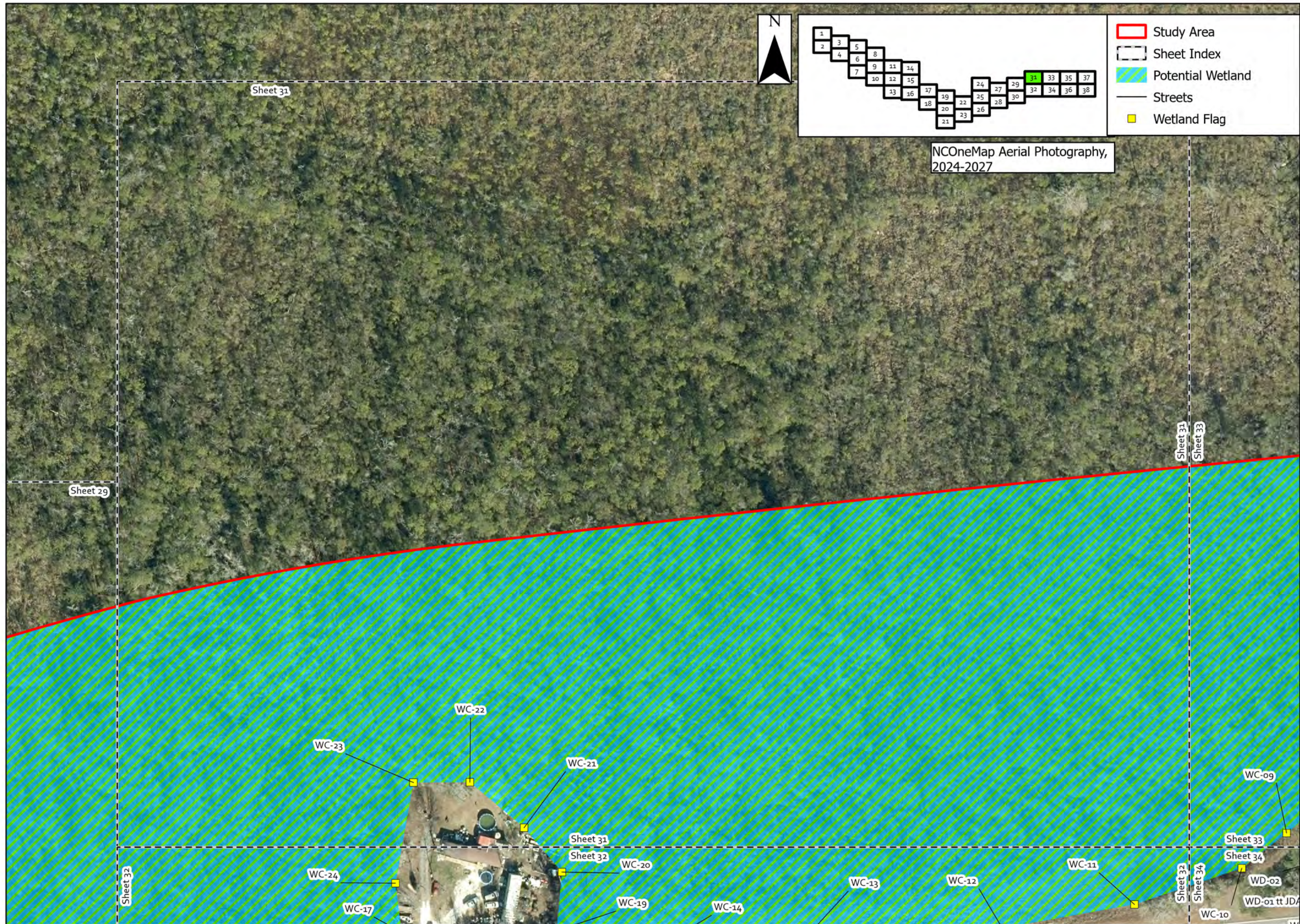
Job No.: 26-600

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Sheet 30



- Study Area
- Sheet Index
- Potential Wetland
- Streets
- Wetland Flag

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HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
Community to
West of Robertson
Landing Road
(SR 1169)

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Flag Locations

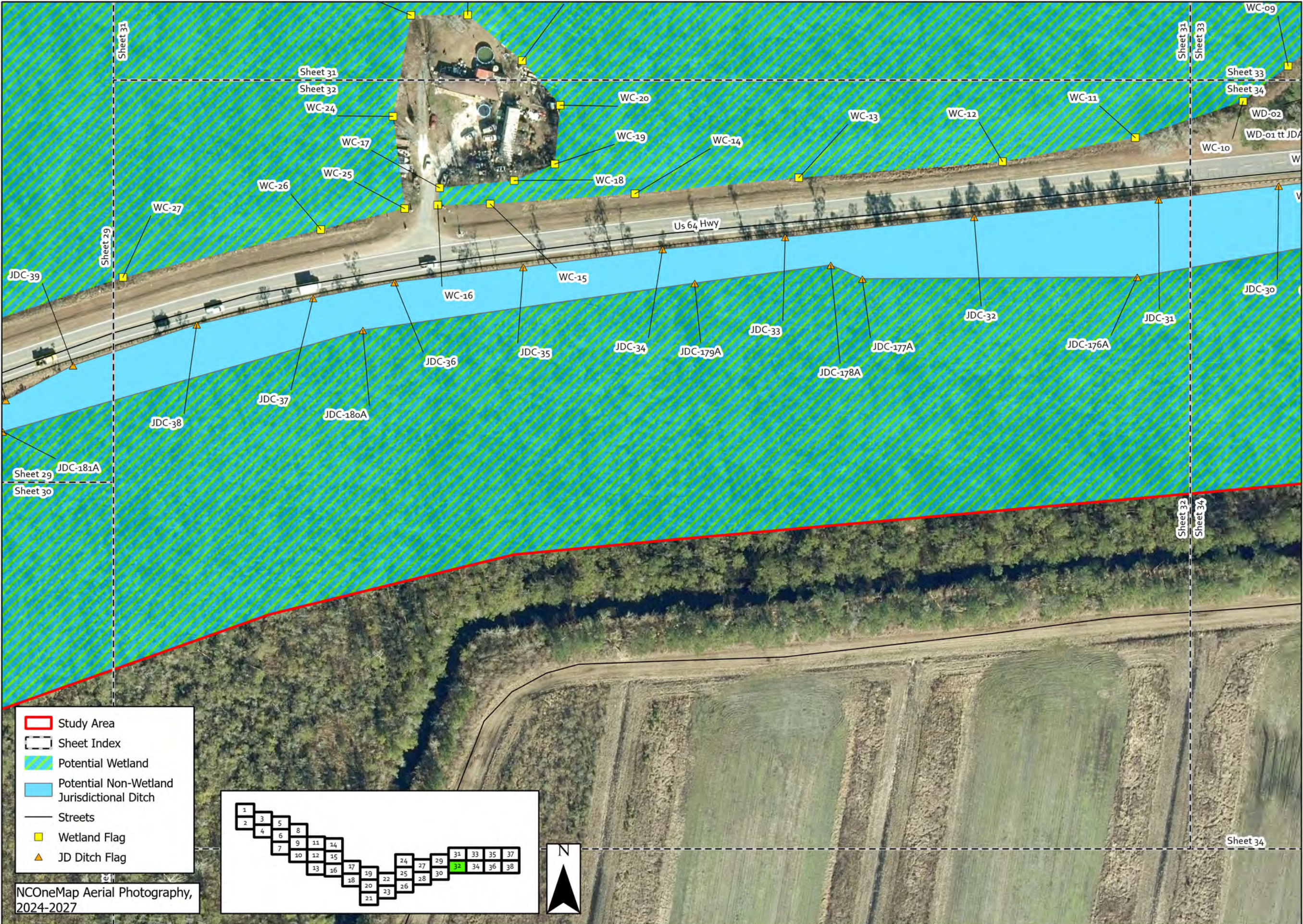
Dare County,
North Carolina

Date:	June 2026
Job No.:	26-600
Drawn By:	Checked By:
KEMS	DGC

Figure

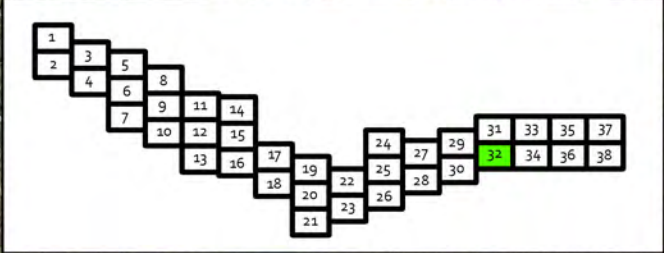
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Sheet 31



- Study Area
- Sheet Index
- Potential Wetland
- Potential Non-Wetland Jurisdictional Ditch
- Streets
- Wetland Flag
- JD Ditch Flag

NCOneMap Aerial Photography,
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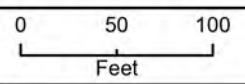


HO-0027: US 64
Wildlife Crossings
US 64 from East of
East Lake
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West of Robertson
Landing Road
(SR 1169)

Water Resources -
Flag Locations

Dare County,
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Date: June 2026

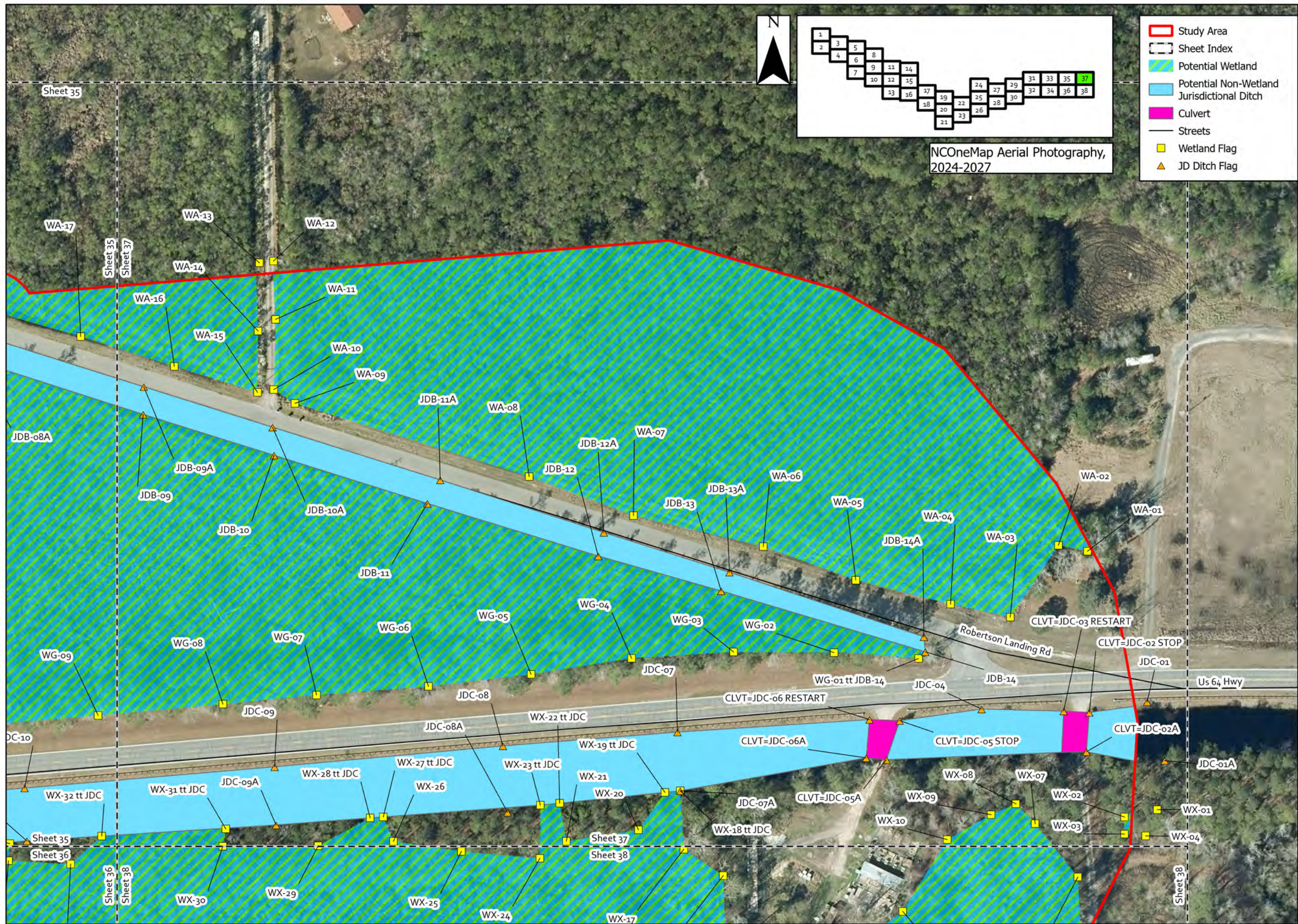


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HO-0027: US 64
Wildlife Crossings
US 64 from East of
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West of Robertson
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0 50 100
Feet

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Wildlife Crossings
US 64 from East of
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KEMS	DGC

Figure
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Appendix C
Wetland Forms

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

 Sampling Point: WAWB-WET

Tree Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u><i>Pinus serotina</i></u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>12</u> (A) Total Number of Dominant Species Across All Strata: <u>12</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. <u><i>Taxodium distichum</i></u>	<u>10</u>	<u>Yes</u>	<u>OBL</u>																	
3. <u><i>Acer rubrum</i></u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
25 = Total Cover																				
50% of total cover: <u>13</u>		20% of total cover: <u>5</u>																		
Sapling/Shrub Stratum (Plot size: <u>10 m</u>)																				
1. <u><i>Morella cerifera</i></u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: right;">Multiply by:</th> </tr> <tr> <td>OBL species <u>60</u></td> <td style="text-align: right;">x 1 = <u>60</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td style="text-align: right;">x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>55</u></td> <td style="text-align: right;">x 3 = <u>165</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td style="text-align: right;">x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td style="text-align: right;">x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>135</u> (A)</td> <td style="text-align: right;"><u>265</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: right;">Prevalence Index = B/A = <u>1.96</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>60</u>	x 1 = <u>60</u>	FACW species <u>20</u>	x 2 = <u>40</u>	FAC species <u>55</u>	x 3 = <u>165</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>135</u> (A)	<u>265</u> (B)	Prevalence Index = B/A = <u>1.96</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>60</u>	x 1 = <u>60</u>																			
FACW species <u>20</u>	x 2 = <u>40</u>																			
FAC species <u>55</u>	x 3 = <u>165</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>135</u> (A)	<u>265</u> (B)																			
Prevalence Index = B/A = <u>1.96</u>																				
2. <u><i>Acer rubrum</i></u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u><i>Sabal minor</i></u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
50 = Total Cover																				
50% of total cover: <u>25</u>		20% of total cover: <u>10</u>																		
Herb Stratum (Plot size: <u>5 m</u>)																				
1. <u><i>Typha latifolia</i></u>	<u>15</u>	<u>Yes</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																
2. <u><i>Hydrocotyle americana</i></u>	<u>15</u>	<u>Yes</u>	<u>OBL</u>																	
3. <u><i>Osmunda spectabilis</i></u>	<u>10</u>	<u>Yes</u>	<u>OBL</u>																	
4. <u><i>Sagittaria lancifolia</i></u>	<u>10</u>	<u>Yes</u>	<u>OBL</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
50 = Total Cover																				
50% of total cover: <u>25</u>		20% of total cover: <u>10</u>																		
Woody Vine Stratum (Plot size: <u>10 m</u>)																				
1. <u><i>Toxicodendron radicans</i></u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	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 <u>X</u> No <u> </u>																
2. <u><i>Smilax rotundifolia</i></u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
10 = Total Cover																				
50% of total cover: <u>5</u>		20% of total cover: <u>2</u>																		
Remarks: (If observed, list morphological adaptations below.)																				

SOIL

Sampling Point: WAWB-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 2/1	100					Muck	
4-20	10YR 6/1	100					Sandy	
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) ☐ Iron Monosulfide (A18) ☐ 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) ☐ Barrier Islands 1 cm Muck (S12) (MLRA 153B, 153D) ☐ 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 Floodplain Soils (F20) (MLRA 149A, 153C, 153D) ☐ Very Shallow Dark Surface (F22) (MLRA 138, 152A in FL, 154) Indicators for Problematic Hydric Soils³: ☐ 1 cm Muck (A9) (LRR O) ☐ 2 cm Muck (A10) (LRR S) ☐ Coast Prairie Redox (A16) (MLRA 149A) ☐ Reduced Vertic (F18) (outside MLRA 150A, 150B) ☐ Piedmont Floodplain Soils (F19) (LRR P, T) ☐ Anomalous Bright Floodplain Soils (F20) (MLRA 153B) ☐ Red Parent Material (F21) ☐ Very Shallow Dark Surface (F22) (outside MLRA 138, 152A in FL, 154) ☐ Other (Explain in Remarks)								
Restrictive Layer (if observed): Type: _____ Depth (inches): _____							Hydric Soil Present? Yes ☒ No _____	
Remarks:								

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/06/2026
Applicant/Owner: NCDOT State: NC Sampling Point: WC-WET
Investigator(s): Trevor Hall, PWS Section, Township, Range: N/A
Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 4
Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.872844 Long: -75.893992 Datum: NAD 83
Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: PSS1/FO4B
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u> X </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u>
Hydric Soil Present? Yes <u> X </u> No <u> </u>	
Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	

Remarks:
NCWAM Wetland Type: Riverine Swamp Forest/ Tidal Freshwater Marsh. The APT readout shows drier than usual conditions during the duration of the field investigations.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> X </u> Surface Water (A1) <u> </u> Aquatic Fauna (B13) <u> X </u> High Water Table (A2) <u> </u> Marl Deposits (B15) (LRR U) <u> X </u> Saturation (A3) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Water Marks (B1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Sediment Deposits (B2) <u> </u> Presence of Reduced Iron (C4) <u> </u> Drift Deposits (B3) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Algal Mat or Crust (B4) <u> X </u> Thin Muck Surface (C7) <u> </u> Iron Deposits (B5) <u> </u> Other (Explain in Remarks) <u> X </u> Inundation Visible on Aerial Imagery (B7) <u> X </u> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> X </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> X </u> Crayfish Burrows (C8) <u> X </u> Saturation Visible on Aerial Imagery (C9) <u> X </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> X </u> FAC-Neutral Test (D5) <u> X </u> Sphagnum Moss (D8) (LRR T, U)
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Field Observations: Surface Water Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 3 </u> Water Table Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 0 </u> Saturation Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 0 </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> X </u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

 Sampling Point: WC-WET

Tree Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u><i>Pinus serotina</i></u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>9</u> (A) Total Number of Dominant Species Across All Strata: <u>9</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. <u><i>Pinus taeda</i></u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
30 = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>45</u></td> <td>x 1 = <u>45</u></td> </tr> <tr> <td>FACW species <u>45</u></td> <td>x 2 = <u>90</u></td> </tr> <tr> <td>FAC species <u>55</u></td> <td>x 3 = <u>165</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>145</u> (A)</td> <td><u>300</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.07</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>45</u>	x 1 = <u>45</u>	FACW species <u>45</u>	x 2 = <u>90</u>	FAC species <u>55</u>	x 3 = <u>165</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>145</u> (A)	<u>300</u> (B)	Prevalence Index = B/A = <u>2.07</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>45</u>	x 1 = <u>45</u>																			
FACW species <u>45</u>	x 2 = <u>90</u>																			
FAC species <u>55</u>	x 3 = <u>165</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>145</u> (A)	<u>300</u> (B)																			
Prevalence Index = B/A = <u>2.07</u>																				
50% of total cover: <u>15</u> 20% of total cover: <u>6</u>																				
Sapling/Shrub Stratum (Plot size: <u>10 m</u>)																				
1. <u><i>Morella cerifera</i></u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>X</u> <u>3</u> - Prevalence Index is ≤3.0 ¹ <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																
2. <u><i>Pinus serotina</i></u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u><i>Pinus taeda</i></u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>																	
4. <u><i>Chamaecyparis thyoides</i></u>	<u>5</u>	<u>No</u>	<u>OBL</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
65 = Total Cover																				
50% of total cover: <u>33</u> 20% of total cover: <u>13</u>																				
Herb Stratum (Plot size: <u>5 m</u>)																				
1. <u><i>Scirpus cyperinus</i></u>	<u>15</u>	<u>Yes</u>	<u>OBL</u>	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.																
2. <u><i>Typha latifolia</i></u>	<u>15</u>	<u>Yes</u>	<u>OBL</u>																	
3. <u><i>Juncus effusus</i></u>	<u>10</u>	<u>Yes</u>	<u>OBL</u>																	
4. <u><i>Phragmites australis</i></u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
50 = Total Cover																				
50% of total cover: <u>25</u> 20% of total cover: <u>10</u>																				
Woody Vine Stratum (Plot size: <u>10 m</u>)																				
1. <u><i>Absent</i></u>	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Remarks: (If observed, list morphological adaptations below.)																				

SOIL

Sampling Point: WC-WET

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 2/1	100					Muck	
1-3	10YR 2/1	100					Mucky Loam/Clay	
3-12	10YR 4/1	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)
☐ Black Histic (A3)	(MLRA 153B, 153D)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)
☐ Organic Bodies (A6) (LRR P, T, U)	☐ Depleted Matrix (F3)
☒ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)
☒ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)
☐ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)
☐ Iron Monosulfide (A18)	☐ Umbric Surface (F13) (LRR P, T, U)
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Dark Surface (S7) (LRR P, S, T, U)	(MLRA 149A, 153C, 153D)
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)
(LRR S, T, U)	(MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) (LRR O)
☐ 2 cm Muck (A10) (LRR S)
☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Reduced Vertic (F18)
(outside MLRA 150A, 150B)
☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☐ Anomalous Bright Floodplain Soils (F20)
(MLRA 153B)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (F22)
(outside MLRA 138, 152A in FL, 154)
☐ Other (Explain in Remarks)

³Indicators 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:

Too wet to sample below 12"

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/06/2026

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

Investigator(s): Trevor Hall, PWS Section, Township, Range: N/A

Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 6

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.871270 Long: -75.896279 Datum: NAD 83

Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: PFO4/1Bd

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> X </u> No <u> </u> Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u>
Remarks: NCWAM Wetland Type: Riverine Swamp Forest. The APT readout shows drier than usual conditions during the duration of the field investigations.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <table style="width: 100%; border: none;"> <tr> <td><u> X </u> Surface Water (A1)</td> <td><u> </u> Aquatic Fauna (B13)</td> </tr> <tr> <td><u> X </u> High Water Table (A2)</td> <td><u> </u> Marl Deposits (B15) (LRR U)</td> </tr> <tr> <td><u> X </u> Saturation (A3)</td> <td><u> </u> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><u> </u> Water Marks (B1)</td> <td><u> </u> Oxidized Rhizospheres on Living Roots (C3)</td> </tr> <tr> <td><u> </u> Sediment Deposits (B2)</td> <td><u> </u> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><u> X </u> Drift Deposits (B3)</td> <td><u> </u> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><u> </u> Algal Mat or Crust (B4)</td> <td><u> </u> Thin Muck Surface (C7)</td> </tr> <tr> <td><u> </u> Iron Deposits (B5)</td> <td><u> </u> Other (Explain in Remarks)</td> </tr> <tr> <td><u> </u> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td><u> X </u> Water-Stained Leaves (B9)</td> <td></td> </tr> </table>	<u> X </u> Surface Water (A1)	<u> </u> Aquatic Fauna (B13)	<u> X </u> High Water Table (A2)	<u> </u> Marl Deposits (B15) (LRR U)	<u> X </u> Saturation (A3)	<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Water Marks (B1)	<u> </u> Oxidized Rhizospheres on Living Roots (C3)	<u> </u> Sediment Deposits (B2)	<u> </u> Presence of Reduced Iron (C4)	<u> X </u> Drift Deposits (B3)	<u> </u> Recent Iron Reduction in Tilled Soils (C6)	<u> </u> Algal Mat or Crust (B4)	<u> </u> Thin Muck Surface (C7)	<u> </u> Iron Deposits (B5)	<u> </u> Other (Explain in Remarks)	<u> </u> Inundation Visible on Aerial Imagery (B7)		<u> X </u> Water-Stained Leaves (B9)		Secondary Indicators (minimum of two required) <table style="width: 100%; border: none;"> <tr> <td><u> </u> Surface Soil Cracks (B6)</td> </tr> <tr> <td><u> </u> Sparsely Vegetated Concave Surface (B8)</td> </tr> <tr> <td><u> X </u> Drainage Patterns (B10)</td> </tr> <tr> <td><u> </u> Moss Trim Lines (B16)</td> </tr> <tr> <td><u> </u> Dry-Season Water Table (C2)</td> </tr> <tr> <td><u> X </u> Crayfish Burrows (C8)</td> </tr> <tr> <td><u> </u> Saturation Visible on Aerial Imagery (C9)</td> </tr> <tr> <td><u> X </u> Geomorphic Position (D2)</td> </tr> <tr> <td><u> </u> Shallow Aquitard (D3)</td> </tr> <tr> <td><u> </u> FAC-Neutral Test (D5)</td> </tr> <tr> <td><u> </u> Sphagnum Moss (D8) (LRR T, U)</td> </tr> </table>	<u> </u> Surface Soil Cracks (B6)	<u> </u> Sparsely Vegetated Concave Surface (B8)	<u> X </u> Drainage Patterns (B10)	<u> </u> Moss Trim Lines (B16)	<u> </u> Dry-Season Water Table (C2)	<u> X </u> Crayfish Burrows (C8)	<u> </u> Saturation Visible on Aerial Imagery (C9)	<u> X </u> Geomorphic Position (D2)	<u> </u> Shallow Aquitard (D3)	<u> </u> FAC-Neutral Test (D5)	<u> </u> Sphagnum Moss (D8) (LRR T, U)
<u> X </u> Surface Water (A1)	<u> </u> Aquatic Fauna (B13)																															
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Field Observations: Surface Water Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 1 </u> Water Table Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 0 </u> Saturation Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 0 </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> X </u> No <u> </u>																															
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks:																																

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

 Sampling Point: WD-WET

<u>Tree Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Liquidambar styraciflua</u>	<u>50</u>	<u>Yes</u>	<u>FAC</u>
2.	<u>Pinus taeda</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>
3.				
4.				
5.				
6.				
7.				
8.				
		<u>75</u>	<u>=Total Cover</u>	
50% of total cover:		<u>38</u>	20% of total cover:	
			<u>15</u>	

<u>Sapling/Shrub Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Morella cerifera</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>
2.	<u>Persea palustris</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
3.	<u>Carpinus caroliniana</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>
4.				
5.				
6.				
7.				
8.				
		<u>50</u>	<u>=Total Cover</u>	
50% of total cover:		<u>25</u>	20% of total cover:	
			<u>10</u>	

<u>Herb Stratum</u> (Plot size: <u>5 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Alternanthera philoxeroides</u>	<u>15</u>	<u>Yes</u>	<u>OBL</u>
2.	<u>Hydrocotyle umbellata</u>	<u>10</u>	<u>Yes</u>	<u>OBL</u>
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		<u>25</u>	<u>=Total Cover</u>	
50% of total cover:		<u>13</u>	20% of total cover:	
			<u>5</u>	

<u>Woody Vine Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Toxicodendron radicans</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>
2.				
3.				
4.				
5.				
		<u>5</u>	<u>=Total Cover</u>	
50% of total cover:		<u>3</u>	20% of total cover:	
			<u>1</u>	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>25</u>	x 1 = <u>25</u>
FACW species <u>20</u>	x 2 = <u>40</u>
FAC species <u>110</u>	x 3 = <u>330</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>155</u> (A)	<u>395</u> (B)
Prevalence Index = B/A = <u>2.55</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators 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 X No

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

SOIL

Sampling Point: WD-WET**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-11	10YR 2/1	100					Loamy/Clayey	
11-18	10YR 4/1	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils³:**

☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)	☐ 1 cm Muck (A9) (LRR O)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)	☐ 2 cm Muck (A10) (LRR S)
☐ Black Histic (A3)	(MLRA 153B, 153D)	☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)	☒ Reduced Vertic (F18)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)	(outside MLRA 150A, 150B)
☐ Organic Bodies (A6) (LRR P, T, U)	☐ Depleted Matrix (F3)	☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)	(MLRA 153B)
☐ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)	☐ Red Parent Material (F21)
☐ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)	(outside MLRA 138, 152A in FL, 154)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)	☐ Other (Explain in Remarks)
☐ Iron Monosulfide (A18)	☒ Umbric Surface (F13) (LRR P, T, U)	
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)	
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)	
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)	
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)	
☐ Dark Surface (S7) (LRR P, S, T, U)	(MLRA 149A, 153C, 153D)	
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)	
(LRR S, T, U)	(MLRA 138, 152A in FL, 154)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/06/2026

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

Investigator(s): Trevor Hall, PWS Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.872736 Long: -75.893752 Datum: NAD 83

Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: PFO4/1B

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> X </u> No <u> </u> Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u>
Remarks: NCWAM Wetland Type: Riverine Swamp Forest. The APT readout shows drier than usual conditions during the duration of the field investigations.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u> X </u> High Water Table (A2) <u> X </u> Saturation (A3) <u> </u> Water Marks (B1) <u> </u> Sediment Deposits (B2) <u> </u> Drift Deposits (B3) <u> </u> Algal Mat or Crust (B4) <u> </u> Iron Deposits (B5) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> X </u> Water-Stained Leaves (B9) <u> </u> Aquatic Fauna (B13) <u> </u> Marl Deposits (B15) (LRR U) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Presence of Reduced Iron (C4) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> X </u> Thin Muck Surface (C7) <u> </u> Other (Explain in Remarks)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> X </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> X </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> X </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> </u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <u> </u> No <u> X </u> Depth (inches): <u> 0 </u> Water Table Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 4 </u> Saturation Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 0 </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> X </u> No <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

 Sampling Point: WE-WET

<u>Tree Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Pinus taeda</i></u>	<u>50</u>	<u>Yes</u>	<u>FAC</u>
2.	<u><i>Carpinus caroliniana</i></u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>
3.				
4.				
5.				
6.				
7.				
8.				
		<u>75</u>	<u>=Total Cover</u>	

 50% of total cover: 38 20% of total cover: 15

<u>Sapling/Shrub Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Morella cerifera</i></u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>
2.	<u><i>Quercus laurifolia</i></u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
3.	<u><i>Sabal minor</i></u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>
4.				
5.				
6.				
7.				
8.				
		<u>60</u>	<u>=Total Cover</u>	

 50% of total cover: 30 20% of total cover: 12

<u>Herb Stratum</u> (Plot size: <u>5 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Alternanthera philoxeroides</i></u>	<u>5</u>	<u>Yes</u>	<u>OBL</u>
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		<u>5</u>	<u>=Total Cover</u>	

 50% of total cover: 3 20% of total cover: 1

<u>Woody Vine Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Smilax laurifolia</i></u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>
2.				
3.				
4.				
5.				
		<u>5</u>	<u>=Total Cover</u>	

 50% of total cover: 3 20% of total cover: 1
Dominance Test worksheet:

 Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

 Total Number of Dominant Species Across All Strata: 7 (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>5</u>	x 1 = <u>5</u>
FACW species <u>40</u>	x 2 = <u>80</u>
FAC species <u>100</u>	x 3 = <u>300</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>145</u> (A)	<u>385</u> (B)
Prevalence Index = B/A = <u>2.66</u>	

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤ 3.0 ¹
- Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators 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 X No

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

SOIL

Sampling Point: WE-WET

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 2/1	100					Muck	
1-12	10YR 2/2	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils³:**

☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)	☐ 1 cm Muck (A9) (LRR O)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)	☐ 2 cm Muck (A10) (LRR S)
☐ Black Histic (A3)	☐ (MLRA 153B, 153D)	☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)	☐ Reduced Vertic (F18)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)	☐ (outside MLRA 150A, 150B)
☐ Organic Bodies (A6) (LRR P, T, U)	☐ Depleted Matrix (F3)	☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)	☐ (MLRA 153B)
☒ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)	☐ Red Parent Material (F21)
☐ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)	☐ (outside MLRA 138, 152A in FL, 154)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)	☐ Other (Explain in Remarks)
☐ Iron Monosulfide (A18)	☐ Umbric Surface (F13) (LRR P, T, U)	
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)	
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)	
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)	
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)	
☐ Dark Surface (S7) (LRR P, S, T, U)	☐ (MLRA 149A, 153C, 153D)	
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)	
☐ (LRR S, T, U)	☐ (MLRA 138, 152A in FL, 154)	

³Indicators 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:

Too wet to sample below 12".

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/06/2026
Applicant/Owner: NCDOT State: NC Sampling Point: WF-WET
Investigator(s): Annie Dahlem, PWS Section, Township, Range: N/A
Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 4
Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.873162 Long: -75.893368 Datum: NAD 83
Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: PFO
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	

Remarks:
NCWAM Wetland Type: Riverine Swamp Forest. Wetland is cut off from wetland WB by a gravel driveway on the eastern boundary. The APT readout shows drier than usual conditions during the duration of the field investigations.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u> </u> Aquatic Fauna (B13) <u>X</u> High Water Table (A2) <u> </u> Marl Deposits (B15) (LRR U) <u>X</u> Saturation (A3) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Water Marks (B1) <u>X</u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Sediment Deposits (B2) <u> </u> Presence of Reduced Iron (C4) <u> </u> Drift Deposits (B3) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Algal Mat or Crust (B4) <u> </u> Thin Muck Surface (C7) <u> </u> Iron Deposits (B5) <u> </u> Other (Explain in Remarks) <u> </u> Inundation Visible on Aerial Imagery (B7) <u>X</u> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u>X</u> Drainage Patterns (B10) <u>X</u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u>X</u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u>X</u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)
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Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>9</u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>6</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

 Sampling Point: WF-WET

Tree Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Liquidambar styraciflua</u>	30	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. <u>Acer rubrum</u>	10	Yes	FAC																	
3. <u>Pinus serotina</u>	5	No	FACW																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
45 = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: right;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td style="text-align: right;">x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>30</u></td> <td style="text-align: right;">x 2 = <u>60</u></td> </tr> <tr> <td>FAC species <u>85</u></td> <td style="text-align: right;">x 3 = <u>255</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td style="text-align: right;">x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td style="text-align: right;">x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>115</u> (A)</td> <td style="text-align: right;"><u>315</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: right;">Prevalence Index = B/A = <u>2.74</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>30</u>	x 2 = <u>60</u>	FAC species <u>85</u>	x 3 = <u>255</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>115</u> (A)	<u>315</u> (B)	Prevalence Index = B/A = <u>2.74</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>30</u>	x 2 = <u>60</u>																			
FAC species <u>85</u>	x 3 = <u>255</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>115</u> (A)	<u>315</u> (B)																			
Prevalence Index = B/A = <u>2.74</u>																				
50% of total cover: <u>23</u> 20% of total cover: <u>9</u>																				
Sapling/Shrub Stratum (Plot size: <u>10 m</u>)																				
1. <u>Morella cerifera</u>	30	Yes	FAC	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)																
2. <u>Quercus laurifolia</u>	15	Yes	FACW																	
3. <u>Sabal minor</u>	10	No	FACW																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
55 = Total Cover																				
50% of total cover: <u>28</u> 20% of total cover: <u>11</u>																				
Herb Stratum (Plot size: <u>5 m</u>)																				
1. <u>Absent</u>				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.																
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: <u>10 m</u>)																				
1. <u>Campsis radicans</u>	10	Yes	FAC	Hydrophytic Vegetation Present? Yes ☒ No ☐																
2. <u>Smilax rotundifolia</u>	5	Yes	FAC																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
15 = Total Cover																				
50% of total cover: <u>8</u> 20% of total cover: <u>3</u>																				
Remarks: (If observed, list morphological adaptations below.)																				

SOIL

Sampling Point: WF-WET**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 2/1	100					Mucky Loam/Clay	
5-20	10YR 4/2	90	7.5YR 4/6	10	C	PL/M	Loamy/Clayey	Prominent redox concentrations. Sandy clay loam.

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)
☐ Black Histic (A3)	(MLRA 153B, 153D)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)
☐ Organic Bodies (A6) (LRR P, T, U)	☒ Depleted Matrix (F3)
☒ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)
☐ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)
☒ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)
☐ Iron Monosulfide (A18)	☐ Umbric Surface (F13) (LRR P, T, U)
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Dark Surface (S7) (LRR P, S, T, U)	(MLRA 149A, 153C, 153D)
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)
(LRR S, T, U)	(MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) (LRR O)
☐ 2 cm Muck (A10) (LRR S)
☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Reduced Vertic (F18)
(outside MLRA 150A, 150B)
☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☐ Anomalous Bright Floodplain Soils (F20)
(MLRA 153B)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (F22)
(outside MLRA 138, 152A in FL, 154)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

Hydric Soil Present?Yes X No _____

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/06/2026
Applicant/Owner: NCDOT State: NC Sampling Point: WG-WET
Investigator(s): Annie Dahlem, PWS Section, Township, Range: N/A
Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 2
Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.871550 Long: -75.889825 Datum: NAD 83
Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: PFO4/1Bd
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u> X </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u>
Hydric Soil Present? Yes <u> X </u> No <u> </u>	
Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	

Remarks:
NCWAM Wetland Type: Riverine Swamp Forest/Tidal Freshwater Marsh. The APT readout shows drier than usual conditions during the duration of the field investigations.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u> </u> Aquatic Fauna (B13) <u> X </u> High Water Table (A2) <u> </u> Marl Deposits (B15) (LRR U) <u> X </u> Saturation (A3) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Water Marks (B1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Sediment Deposits (B2) <u> </u> Presence of Reduced Iron (C4) <u> </u> Drift Deposits (B3) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Algal Mat or Crust (B4) <u> </u> Thin Muck Surface (C7) <u> </u> Iron Deposits (B5) <u> </u> Other (Explain in Remarks) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> X </u> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> X </u> Drainage Patterns (B10) <u> X </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> X </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> X </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> X </u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)
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Field Observations: Surface Water Present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Water Table Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 5 </u> Saturation Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 0 </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> X </u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Surface water was not present directly at the sampling point where the soil plug was taken, but other areas contained 2-4 inches of water.

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

 Sampling Point: WG-WET

Tree Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Liquidambar styraciflua</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>87.5%</u> (A/B)																
2. <u>Acer rubrum</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u>Pinus serotina</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																	
4. <u>Quercus laurifolia</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
55 = Total Cover																				
50% of total cover: <u>28</u>		20% of total cover: <u>11</u>																		
Sapling/Shrub Stratum (Plot size: <u>10 m</u>)																				
1. <u>Acer rubrum</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>30</u></td> <td>x 1 = <u>30</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>65</u></td> <td>x 3 = <u>195</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>120</u> (A)</td> <td><u>285</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.38</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>30</u>	x 1 = <u>30</u>	FACW species <u>20</u>	x 2 = <u>40</u>	FAC species <u>65</u>	x 3 = <u>195</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>120</u> (A)	<u>285</u> (B)	Prevalence Index = B/A = <u>2.38</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>30</u>	x 1 = <u>30</u>																			
FACW species <u>20</u>	x 2 = <u>40</u>																			
FAC species <u>65</u>	x 3 = <u>195</u>																			
FACU species <u>5</u>	x 4 = <u>20</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>120</u> (A)	<u>285</u> (B)																			
Prevalence Index = B/A = <u>2.38</u>																				
2. <u>Liquidambar styraciflua</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
25 = Total Cover																				
50% of total cover: <u>13</u>		20% of total cover: <u>5</u>																		
Herb Stratum (Plot size: <u>5 m</u>)																				
1. <u>Osmunda spectabilis</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>X</u> <u>3</u> - Prevalence Index is ≤3.0 ¹ <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																
2. <u>Juncus effusus</u>	<u>10</u>	<u>Yes</u>	<u>OBL</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
30 = Total Cover																				
50% of total cover: <u>15</u>		20% of total cover: <u>6</u>																		
Woody Vine Stratum (Plot size: <u>10 m</u>)																				
1. <u>Parthenocissus quinquefolia</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Toxicodendron radicans</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
10 = Total Cover																				
50% of total cover: <u>5</u>		20% of total cover: <u>2</u>																		
Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>																				
Remarks: (If observed, list morphological adaptations below.)																				

SOIL

Sampling Point: WG-WET**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 2/1	100					Muck	
3-6	10YR 4/2	100					Loamy/Clayey	
6-20	10YR 5/1	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)
☐ Black Histic (A3)	(MLRA 153B, 153D)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)
☐ Organic Bodies (A6) (LRR P, T, U)	☒ Depleted Matrix (F3)
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)
☒ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)
☐ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)
☐ Iron Monosulfide (A18)	☐ Umbric Surface (F13) (LRR P, T, U)
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Dark Surface (S7) (LRR P, S, T, U)	(MLRA 149A, 153C, 153D)
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)
(LRR S, T, U)	(MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) (LRR O)
☐ 2 cm Muck (A10) (LRR S)
☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Reduced Vertic (F18)
(outside MLRA 150A, 150B)
☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☐ Anomalous Bright Floodplain Soils (F20)
(MLRA 153B)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (F22)
(outside MLRA 138, 152A in FL, 154)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/06/2026

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

Investigator(s): Trevor Hall, PWS Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.867617 Long: -75.915508 Datum: NAD 83

Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: PFO4Bd

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> X </u> No <u> </u> Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; padding: 5px;"> Is the Sampled Area within a Wetland? </td> <td style="width: 40%; padding: 5px;"> Yes <u> X </u> No <u> </u> </td> </tr> </table>	Is the Sampled Area within a Wetland?	Yes <u> X </u> No <u> </u>
Is the Sampled Area within a Wetland?	Yes <u> X </u> No <u> </u>		
Remarks: NCWAM Wetland Type: Riverine Swamp Forest/ Tidal Freshwater Marsh. Wetland form taken in forested portion of wetland. The APT readout shows drier than usual conditions during the duration of the field investigations.			

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> X </u> Surface Water (A1) <u> X </u> High Water Table (A2) <u> X </u> Saturation (A3) <u> </u> Water Marks (B1) <u> </u> Sediment Deposits (B2) <u> </u> Drift Deposits (B3) <u> </u> Algal Mat or Crust (B4) <u> </u> Iron Deposits (B5) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> X </u> Water-Stained Leaves (B9) <u> </u> Aquatic Fauna (B13) <u> </u> Marl Deposits (B15) (LRR U) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Presence of Reduced Iron (C4) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> X </u> Thin Muck Surface (C7) <u> </u> Other (Explain in Remarks)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> X </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> X </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> X </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> </u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)		
Field Observations: Surface Water Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 1 </u> Water Table Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 0 </u> Saturation Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 0 </u> (includes capillary fringe)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; padding: 5px;"> Wetland Hydrology Present? </td> <td style="width: 40%; padding: 5px;"> Yes <u> X </u> No <u> </u> </td> </tr> </table>	Wetland Hydrology Present?	Yes <u> X </u> No <u> </u>
Wetland Hydrology Present?	Yes <u> X </u> No <u> </u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

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

 Sampling Point: WH-WET

<u>Tree Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Pinus taeda</i></u>	<u>50</u>	<u>Yes</u>	<u>FAC</u>
2.	<u><i>Liquidambar styraciflua</i></u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>
3.	<u><i>Acer rubrum</i></u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>
4.	<u></u>	<u></u>	<u></u>	<u></u>
5.	<u></u>	<u></u>	<u></u>	<u></u>
6.	<u></u>	<u></u>	<u></u>	<u></u>
7.	<u></u>	<u></u>	<u></u>	<u></u>
8.	<u></u>	<u></u>	<u></u>	<u></u>
		<u>90</u>	<u>=Total Cover</u>	

 50% of total cover: 45 20% of total cover: 18

<u>Sapling/Shrub Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Arundinaria tecta</i></u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
2.	<u><i>Quercus laurifolia</i></u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>
3.	<u><i>Acer rubrum</i></u>	<u>10</u>	<u>No</u>	<u>FAC</u>
4.	<u><i>Persea palustris</i></u>	<u>10</u>	<u>No</u>	<u>FACW</u>
5.	<u></u>	<u></u>	<u></u>	<u></u>
6.	<u></u>	<u></u>	<u></u>	<u></u>
7.	<u></u>	<u></u>	<u></u>	<u></u>
8.	<u></u>	<u></u>	<u></u>	<u></u>
		<u>55</u>	<u>=Total Cover</u>	

 50% of total cover: 28 20% of total cover: 11

<u>Herb Stratum</u> (Plot size: <u>5 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Osmunda cinnamomea</i></u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
2.	<u><i>Scirpus cyperinus</i></u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>
3.	<u><i>Woodwardia virginica</i></u>	<u>10</u>	<u>Yes</u>	<u>OBL</u>
4.	<u></u>	<u></u>	<u></u>	<u></u>
5.	<u></u>	<u></u>	<u></u>	<u></u>
6.	<u></u>	<u></u>	<u></u>	<u></u>
7.	<u></u>	<u></u>	<u></u>	<u></u>
8.	<u></u>	<u></u>	<u></u>	<u></u>
9.	<u></u>	<u></u>	<u></u>	<u></u>
10.	<u></u>	<u></u>	<u></u>	<u></u>
11.	<u></u>	<u></u>	<u></u>	<u></u>
12.	<u></u>	<u></u>	<u></u>	<u></u>
		<u>50</u>	<u>=Total Cover</u>	

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

<u>Woody Vine Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Smilax laurifolia</i></u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>
2.	<u></u>	<u></u>	<u></u>	<u></u>
3.	<u></u>	<u></u>	<u></u>	<u></u>
4.	<u></u>	<u></u>	<u></u>	<u></u>
5.	<u></u>	<u></u>	<u></u>	<u></u>
		<u>5</u>	<u>=Total Cover</u>	

 50% of total cover: 3 20% of total cover: 1
Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 9 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>30</u>	x 1 = <u>30</u>
FACW species <u>70</u>	x 2 = <u>140</u>
FAC species <u>100</u>	x 3 = <u>300</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>200</u> (A)	<u>470</u> (B)
Prevalence Index = B/A = <u>2.35</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is $\leq 3.0^1$

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators 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 X No

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

SOIL

Sampling Point: WH-WET

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 2/1	100					Muck	
1-4	10YR 2/2	100					Loamy/Clayey	
4-18	10YR 5/1	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils³:**

☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)	☐ 1 cm Muck (A9) (LRR O)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)	☐ 2 cm Muck (A10) (LRR S)
☐ Black Histic (A3)	(MLRA 153B, 153D)	☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)	☐ Reduced Vertic (F18)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)	(outside MLRA 150A, 150B)
☐ Organic Bodies (A6) (LRR P, T, U)	☒ Depleted Matrix (F3)	☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)	(MLRA 153B)
☒ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)	☐ Red Parent Material (F21)
☒ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)	(outside MLRA 138, 152A in FL, 154)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)	☐ Other (Explain in Remarks)
☐ Iron Monosulfide (A18)	☐ Umbric Surface (F13) (LRR P, T, U)	
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)	
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)	
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)	
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)	
☐ Dark Surface (S7) (LRR P, S, T, U)	(MLRA 149A, 153C, 153D)	
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)	
(LRR S, T, U)	(MLRA 138, 152A in FL, 154)	

³Indicators 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:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/07/2026
Applicant/Owner: NCDOT State: NC Sampling Point: WI-WET
Investigator(s): Trevor Hall, PWS Section, Township, Range: N/A
Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.875624 Long: -75.934087 Datum: NAD 83
Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: PFO4Bd
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u> X </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u>
Hydric Soil Present? Yes <u> X </u> No <u> </u>	
Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	

Remarks:
NCWAM Wetland Type: Riverine Swamp Forest/ Tidal Freshwater Marsh. Wetland form taken in forested wetland. The APT readout shows drier than usual conditions during the duration of the field investigations.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u> </u> Aquatic Fauna (B13) <u> X </u> High Water Table (A2) <u> </u> Marl Deposits (B15) (LRR U) <u> X </u> Saturation (A3) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Water Marks (B1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Sediment Deposits (B2) <u> </u> Presence of Reduced Iron (C4) <u> </u> Drift Deposits (B3) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Algal Mat or Crust (B4) <u> </u> Thin Muck Surface (C7) <u> </u> Iron Deposits (B5) <u> </u> Other (Explain in Remarks) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> X </u> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> X </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> X </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> X </u> Geomorphic Position (D2) <u> X </u> Shallow Aquitard (D3) <u> X </u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)
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Field Observations: Surface Water Present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Water Table Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 11 </u> Saturation Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 3 </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> X </u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

 Sampling Point: WI-WET

<u>Tree Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Pinus taeda</i></u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>
2.	<u><i>Liquidambar styraciflua</i></u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>
3.	<u><i>Liriodendron tulipifera</i></u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>
4.	<u></u>	<u></u>	<u></u>	<u></u>
5.	<u></u>	<u></u>	<u></u>	<u></u>
6.	<u></u>	<u></u>	<u></u>	<u></u>
7.	<u></u>	<u></u>	<u></u>	<u></u>
8.	<u></u>	<u></u>	<u></u>	<u></u>
		<u>70</u>	<u>=Total Cover</u>	

 50% of total cover: 35 20% of total cover: 14

<u>Sapling/Shrub Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Arundinaria tecta</i></u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>
2.	<u><i>Liquidambar styraciflua</i></u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>
3.	<u><i>Acer rubrum</i></u>	<u>10</u>	<u>No</u>	<u>FAC</u>
4.	<u><i>Scirpus cyperinus</i></u>	<u>10</u>	<u>No</u>	<u>OBL</u>
5.	<u></u>	<u></u>	<u></u>	<u></u>
6.	<u></u>	<u></u>	<u></u>	<u></u>
7.	<u></u>	<u></u>	<u></u>	<u></u>
8.	<u></u>	<u></u>	<u></u>	<u></u>
		<u>65</u>	<u>=Total Cover</u>	

 50% of total cover: 33 20% of total cover: 13

<u>Herb Stratum</u> (Plot size: <u>5 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Juncus effusus</i></u>	<u>5</u>	<u>Yes</u>	<u>OBL</u>
2.	<u></u>	<u></u>	<u></u>	<u></u>
3.	<u></u>	<u></u>	<u></u>	<u></u>
4.	<u></u>	<u></u>	<u></u>	<u></u>
5.	<u></u>	<u></u>	<u></u>	<u></u>
6.	<u></u>	<u></u>	<u></u>	<u></u>
7.	<u></u>	<u></u>	<u></u>	<u></u>
8.	<u></u>	<u></u>	<u></u>	<u></u>
9.	<u></u>	<u></u>	<u></u>	<u></u>
10.	<u></u>	<u></u>	<u></u>	<u></u>
11.	<u></u>	<u></u>	<u></u>	<u></u>
12.	<u></u>	<u></u>	<u></u>	<u></u>
		<u>5</u>	<u>=Total Cover</u>	

 50% of total cover: 3 20% of total cover: 1

<u>Woody Vine Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Lonicera japonica</i></u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>
2.	<u><i>Gelsemium sempervirens</i></u>	<u>4</u>	<u>Yes</u>	<u>FAC</u>
3.	<u></u>	<u></u>	<u></u>	<u></u>
4.	<u></u>	<u></u>	<u></u>	<u></u>
5.	<u></u>	<u></u>	<u></u>	<u></u>
		<u>9</u>	<u>=Total Cover</u>	

 50% of total cover: 5 20% of total cover: 2
Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>15</u>	x 1 = <u>15</u>
FACW species <u>30</u>	x 2 = <u>60</u>
FAC species <u>79</u>	x 3 = <u>237</u>
FACU species <u>25</u>	x 4 = <u>100</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>149</u> (A)	<u>412</u> (B)
Prevalence Index = B/A = <u>2.77</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is $\leq 3.0^1$

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators 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 X No

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

SOIL

Sampling Point: WI-WET**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 2/1	95	10YR 7/1	5	D	M	Loamy/Clayey	
4-12	10YR 5/1	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils³:**

☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)	☐ 1 cm Muck (A9) (LRR O)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)	☐ 2 cm Muck (A10) (LRR S)
☐ Black Histic (A3)	(MLRA 153B, 153D)	☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)	☐ Reduced Vertic (F18)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)	(outside MLRA 150A, 150B)
☐ Organic Bodies (A6) (LRR P, T, U)	☒ Depleted Matrix (F3)	☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)	(MLRA 153B)
☐ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)	☐ Red Parent Material (F21)
☒ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)	(outside MLRA 138, 152A in FL, 154)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)	☐ Other (Explain in Remarks)
☐ Iron Monosulfide (A18)	☐ Umbric Surface (F13) (LRR P, T, U)	
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)	
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)	
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)	
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)	
☐ Dark Surface (S7) (LRR P, S, T, U)	(MLRA 149A, 153C, 153D)	
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)	
(LRR S, T, U)	(MLRA 138, 152A in FL, 154)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**Type: WaterDepth (inches): 12**Hydric Soil Present?** Yes X No

Remarks:

At 12", pocket of water (shallow aquitard) present.

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/07/2026

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

Investigator(s): David Cooper Section, Township, Range: N/A

Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.881241 Long: -75.946103 Datum: NAD 83

Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: PFO4/1B

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> x </u> No <u> </u> Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u>
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Remarks:
 NCWAM Wetland Type: Riverine Swamp Forest/ Tidal Freshwater Marsh. Wetland form taken in forested portion of wetland. The APT readout shows drier than usual conditions during the duration of the field investigations.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ☒ 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 on Living Roots (C3) ☐ Presence of Reduced Iron (C4) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Thin Muck Surface (C7) ☐ Other (Explain in Remarks)	<u>Secondary Indicators (minimum of two required)</u> ☐ 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)
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Field Observations: Surface Water Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 1 </u> Water Table Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 0 </u> Saturation Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 0 </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> X </u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Standing water present in pools.

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

 Sampling Point: WJ-WET

<u>Tree Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Acer rubrum</u>	<u>40</u>	<u>Yes</u>	<u>FAC</u>
2.	<u>Liquidambar styraciflua</u>	<u>40</u>	<u>Yes</u>	<u>FAC</u>
3.				
4.				
5.				
6.				
7.				
8.				
		<u>80</u>	<u>=Total Cover</u>	
50% of total cover: <u>40</u>		20% of total cover: <u>16</u>		

<u>Sapling/Shrub Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Acer rubrum</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>
2.				
3.				
4.				
5.				
6.				
7.				
8.				
		<u>10</u>	<u>=Total Cover</u>	
50% of total cover: <u>5</u>		20% of total cover: <u>2</u>		

<u>Herb Stratum</u> (Plot size: <u>5 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Woodwardia areolata</u>	<u>60</u>	<u>Yes</u>	<u>OBL</u>
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		<u>60</u>	<u>=Total Cover</u>	
50% of total cover: <u>30</u>		20% of total cover: <u>12</u>		

<u>Woody Vine Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Wisteria sinensis</u>	<u>30</u>	<u>Yes</u>	<u>UPL</u>
2.	<u>Smilax rotundifolia</u>	<u>5</u>	<u>No</u>	<u>FAC</u>
3.				
4.				
5.				
		<u>35</u>	<u>=Total Cover</u>	
50% of total cover: <u>18</u>		20% of total cover: <u>7</u>		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>60</u>	x 1 = <u>60</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>95</u>	x 3 = <u>285</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>30</u>	x 5 = <u>150</u>
Column Totals: <u>185</u> (A)	<u>495</u> (B)
Prevalence Index = B/A = <u>2.68</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators 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 X No

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

SOIL

Sampling Point: WJ-WET**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 2/2	100					Mucky Loam/Clay	
5-18	10YR 4/2	60	10YR 6/4	40	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils³:**

☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)	☐ 1 cm Muck (A9) (LRR O)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)	☐ 2 cm Muck (A10) (LRR S)
☐ Black Histic (A3)	(MLRA 153B, 153D)	☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)	☐ Reduced Vertic (F18)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)	(outside MLRA 150A, 150B)
☐ Organic Bodies (A6) (LRR P, T, U)	☒ Depleted Matrix (F3)	☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☒ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)	(MLRA 153B)
☐ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)	☐ Red Parent Material (F21)
☒ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)	(outside MLRA 138, 152A in FL, 154)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)	☐ Other (Explain in Remarks)
☐ Iron Monosulfide (A18)	☐ Umbric Surface (F13) (LRR P, T, U)	
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)	
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)	
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)	
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)	
☐ Dark Surface (S7) (LRR P, S, T, U)	(MLRA 149A, 153C, 153D)	
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)	
(LRR S, T, U)	(MLRA 138, 152A in FL, 154)	

³Indicators 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:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/07/2026
Applicant/Owner: NCDOT State: NC Sampling Point: WK-WET
Investigator(s): Trevor Hall, PWS Section, Township, Range: N/A
Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.880381 Long: -75.945918 Datum: NAD 83
Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: PFO4/1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	

Remarks:
NCWAM Wetland Type: Riverine Swamp Forest/ Tidal Freshwater Marsh. Wetland form taken in forested wetland. The APT readout shows drier than usual conditions during the duration of the field investigations.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators</u> (minimum of one is required; check all that apply) <u>X</u> Surface Water (A1) <u> </u> Aquatic Fauna (B13) <u>X</u> High Water Table (A2) <u> </u> Marl Deposits (B15) (LRR U) <u>X</u> Saturation (A3) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Water Marks (B1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Sediment Deposits (B2) <u> </u> Presence of Reduced Iron (C4) <u> </u> Drift Deposits (B3) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Algal Mat or Crust (B4) <u> </u> Thin Muck Surface (C7) <u> </u> Iron Deposits (B5) <u> </u> Other (Explain in Remarks) <u> </u> Inundation Visible on Aerial Imagery (B7) <u>X</u> Water-Stained Leaves (B9)	<u>Secondary Indicators</u> (minimum of two required) <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u>X</u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u>X</u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u>X</u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u>X</u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)
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Field Observations: Surface Water Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>1</u> Water Table Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

 Sampling Point: WK-WET

Tree Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u><i>Pinus taeda</i></u>	<u>60</u>	<u>Yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>8</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. <u><i>Liquidambar styraciflua</i></u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
<u>80</u> =Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>10</u></td> <td>x 1 = <u>10</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>115</u></td> <td>x 3 = <u>345</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>135</u> (A)</td> <td><u>375</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.78</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>115</u>	x 3 = <u>345</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>135</u> (A)	<u>375</u> (B)	Prevalence Index = B/A = <u>2.78</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>10</u>	x 1 = <u>10</u>																			
FACW species <u>10</u>	x 2 = <u>20</u>																			
FAC species <u>115</u>	x 3 = <u>345</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>135</u> (A)	<u>375</u> (B)																			
Prevalence Index = B/A = <u>2.78</u>																				
50% of total cover: <u>40</u> 20% of total cover: <u>16</u>																				
Sapling/Shrub Stratum (Plot size: <u>10 m</u>)																				
1. <u><i>Morella cerifera</i></u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																
2. <u><i>Liquidambar styraciflua</i></u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u><i>Persea palustris</i></u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>																	
4. <u><i>Acer rubrum</i></u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
<u>40</u> =Total Cover																				
50% of total cover: <u>20</u> 20% of total cover: <u>8</u>																				
Herb Stratum (Plot size: <u>5 m</u>)																				
1. <u><i>Juncus effusus</i></u>	<u>5</u>	<u>Yes</u>	<u>OBL</u>	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.																
2. <u><i>Woodwardia virginica</i></u>	<u>5</u>	<u>Yes</u>	<u>OBL</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
<u>10</u> =Total Cover																				
50% of total cover: <u>5</u> 20% of total cover: <u>2</u>																				
Woody Vine Stratum (Plot size: <u>10 m</u>)																				
1. <u><i>Smilax rotundifolia</i></u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	Hydrophytic Vegetation Present? Yes <u>X</u> No _____																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>5</u> =Total Cover																				
50% of total cover: <u>3</u> 20% of total cover: <u>1</u>																				

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

SOIL

Sampling Point: WK-WET**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/1	100					Loamy/Clayey	
2-18	10YR 4/1	90	10YR 5/4	10	C	M	Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)
☐ Black Histic (A3)	(MLRA 153B, 153D)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)
☐ Organic Bodies (A6) (LRR P, T, U)	☒ Depleted Matrix (F3)
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)
☐ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)
☒ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)
☐ Iron Monosulfide (A18)	☐ Umbric Surface (F13) (LRR P, T, U)
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Dark Surface (S7) (LRR P, S, T, U)	(MLRA 149A, 153C, 153D)
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)
(LRR S, T, U)	(MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) (LRR O)
☐ 2 cm Muck (A10) (LRR S)
☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Reduced Vertic (F18)
(outside MLRA 150A, 150B)
☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☐ Anomalous Bright Floodplain Soils (F20)
(MLRA 153B)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (F22)
(outside MLRA 138, 152A in FL, 154)
☐ Other (Explain in Remarks)

³Indicators 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:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/08/2026

Applicant/Owner: NCDOT State: NC Sampling Point: WL/WM/WR-Wet

Investigator(s): Trevor Hall, PWS and Annie Dahlem, PWS Section, Township, Range: N/A

Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 4

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.875452 Long: -75.937936 Datum: NAD 83

Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: PSS

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> X </u> No <u> </u> Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u>
Remarks: NCWAM Wetland Type: Tidal Freshwater Marsh. These wetlands are on the fringe of similar-sized jurisdictional ditches and share similar physical and biological conditions. The APT readout shows drier than usual conditions during the duration of the field investigations.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> X </u> Surface Water (A1) <u> X </u> High Water Table (A2) <u> X </u> Saturation (A3) <u> </u> Water Marks (B1) <u> </u> Sediment Deposits (B2) <u> </u> Drift Deposits (B3) <u> </u> Algal Mat or Crust (B4) <u> </u> Iron Deposits (B5) <u> X </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Water-Stained Leaves (B9) <u> </u> Aquatic Fauna (B13) <u> </u> Marl Deposits (B15) (LRR U) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Presence of Reduced Iron (C4) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Thin Muck Surface (C7) <u> </u> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> X </u> Crayfish Burrows (C8) <u> X </u> Saturation Visible on Aerial Imagery (C9) <u> X </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> X </u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 2 </u> Water Table Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 0 </u> Saturation Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 0 </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:		

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

 Sampling Point: WLWM/WR-Wet

<u>Tree Stratum</u> (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Absent</u>			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			

_____ =Total Cover

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

<u>Sapling/Shrub Stratum</u> (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Baccharis halimifolia</u>	<u>50</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Liquidambar styraciflua</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>
3. <u>Morella cerifera</u>	<u>10</u>	<u>No</u>	<u>FAC</u>
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			

_____ =Total Cover

 50% of total cover: 38 20% of total cover: 15

<u>Herb Stratum</u> (Plot size: <u>5 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Carex intumescens</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>
2. <u>Juncus effusus</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
12. _____			

_____ =Total Cover

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

<u>Woody Vine Stratum</u> (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Absent</u>			
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: 4 (B)

 Percent of Dominant Species
That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>20</u>	x 1 = <u>20</u>
FACW species <u>30</u>	x 2 = <u>60</u>
FAC species <u>75</u>	x 3 = <u>225</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>125</u> (A)	<u>305</u> (B)
Prevalence Index = B/A = <u>2.44</u>	

Hydrophytic Vegetation Indicators:
 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0¹
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators 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 X No

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

SOIL

Sampling Point: WL/WM/WR-Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 4/2	100					Loamy/Clayey	
2-18	10YR 6/2	85	10YR 4/6	15	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)	☐ 1 cm Muck (A9) (LRR O)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)	☐ 2 cm Muck (A10) (LRR S)
☐ Black Histic (A3)	☐ (MLRA 153B, 153D)	☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)	☐ Reduced Vertic (F18)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)	☐ (outside MLRA 150A, 150B)
☐ Organic Bodies (A6) (LRR P, T, U)	☒ Depleted Matrix (F3)	☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)	☐ (MLRA 153B)
☐ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)	☐ Red Parent Material (F21)
☐ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)	☐ (outside MLRA 138, 152A in FL, 154)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)	☐ Other (Explain in Remarks)
☐ Iron Monosulfide (A18)	☐ Umbric Surface (F13) (LRR P, T, U)	
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)	
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)	
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)	
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)	
☐ Dark Surface (S7) (LRR P, S, T, U)	☐ (MLRA 149A, 153C, 153D)	
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)	
☐ (LRR S, T, U)	☐ (MLRA 138, 152A in FL, 154)	

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <u>X</u> No _____
Remarks:	

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/08/2026

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

Investigator(s): David Cooper Section, Township, Range: N/A

Landform (hillside, terrace, etc.): dove field Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.875280 Long: -75.938142 Datum: NAD 83

Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: PEM

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> X </u> No <u> </u> Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u>
Remarks: NCWAM Wetland Type: Tidal Freshwater Marsh. This wetland is intentionally flooded seasonally. The APT readout shows drier than usual conditions during the duration of the field investigations.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ☒ 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 on Living Roots (C3) ☐ Presence of Reduced Iron (C4) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Thin Muck Surface (C7) ☐ Other (Explain in Remarks)	<u>Secondary Indicators (minimum of two required)</u> ☐ 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 <u> X </u> No <u> </u> Depth (inches): <u> 1 </u> Water Table Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 0 </u> Saturation Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 0 </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> X </u> No <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Standing water present in pools.	

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

 Sampling Point: WN-WET

Tree Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Absent</u>			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
	<u> </u> = Total Cover		
50% of total cover: <u> </u>	20% of total cover: <u> </u>		

Sapling/Shrub Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Absent</u>			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
	<u> </u> = Total Cover		
50% of total cover: <u> </u>	20% of total cover: <u> </u>		

Herb Stratum (Plot size: <u>5 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juncus effusus</u>	<u>30</u>	<u>Yes</u>	<u>OBL</u>
2. <u>Polygonum hydropiperoides</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>
3. <u>Ludwigia palustris</u>	<u>30</u>	<u>Yes</u>	<u>OBL</u>
4. <u>Ranunculus abortivus</u>	<u>5</u>	<u>No</u>	<u>FACW</u>
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
12. _____			
	<u>85</u> = Total Cover		
50% of total cover: <u>43</u>	20% of total cover: <u>17</u>		

Woody Vine Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Absent</u>			
2. _____			
3. _____			
4. _____			
5. _____			
	<u> </u> = Total Cover		
50% of total cover: <u> </u>	20% of total cover: <u> </u>		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>80</u>	x 1 = <u>80</u>
FACW species <u>5</u>	x 2 = <u>10</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>85</u> (A)	<u>90</u> (B)
Prevalence Index = B/A = <u>1.06</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators 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 X No

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

SOIL

Sampling Point: WN-WET**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 4/2	100					Loamy/Clayey	
3-8	10YR 4/2	85	10YR 4/6	15	C	M	Loamy/Clayey	Prominent redox concentrations
8-16	10YR 5/1	70	10YR 4/6	30	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils³:**

☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)	☐ 1 cm Muck (A9) (LRR O)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)	☐ 2 cm Muck (A10) (LRR S)
☐ Black Histic (A3)	☐ (MLRA 153B, 153D)	☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)	☐ Reduced Vertic (F18)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)	☐ (outside MLRA 150A, 150B)
☐ Organic Bodies (A6) (LRR P, T, U)	☒ Depleted Matrix (F3)	☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)	☐ (MLRA 153B)
☐ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)	☐ Red Parent Material (F21)
☐ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)	☐ (outside MLRA 138, 152A in FL, 154)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)	☐ Other (Explain in Remarks)
☐ Iron Monosulfide (A18)	☐ Umbric Surface (F13) (LRR P, T, U)	
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)	
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)	
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)	
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)	
☐ Dark Surface (S7) (LRR P, S, T, U)	☐ (MLRA 149A, 153C, 153D)	
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)	
☐ (LRR S, T, U)	☐ (MLRA 138, 152A in FL, 154)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/08/2026

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

Investigator(s): David Cooper Section, Township, Range: N/A

Landform (hillside, terrace, etc.): dove field Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.875081 Long: -75.937539 Datum: NAD 83

Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: PEM

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

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

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 <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> X </u> No <u> </u> Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u>
Remarks: NCWAM Wetland Type: Tidal Freshwater Marsh. This wetland appears to be mowed periodically. The APT readout shows drier than usual conditions during the duration of the field investigations.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
☐ 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 on Living Roots (C3) ☐ Presence of Reduced Iron (C4) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Thin Muck Surface (C7) ☐ Other (Explain in Remarks)	☐ 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 <u> </u> No <u> X </u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Saturation Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 12 </u> (includes capillary fringe)		Wetland Hydrology Present? Yes <u> X </u> No <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

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

 Sampling Point: WO-WET

Tree Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Absent</u>			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
	<u> </u> = Total Cover		
50% of total cover: <u> </u>	20% of total cover: <u> </u>		

Sapling/Shrub Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer rubrum</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
	<u>5</u> = Total Cover		
50% of total cover: <u>3</u>	20% of total cover: <u>1</u>		

Herb Stratum (Plot size: <u>5 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juncus effusus</u>	<u>30</u>	<u>Yes</u>	<u>OBL</u>
2. <u>Rubus argutus</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>
3. <u>Lespedeza cuneata</u>	<u>15</u>	<u>No</u>	<u>FACU</u>
4. <u>Phragmites australis</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
12. _____			
	<u>85</u> = Total Cover		
50% of total cover: <u>43</u>	20% of total cover: <u>17</u>		

Woody Vine Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Absent</u>			
2. _____			
3. _____			
4. _____			
5. _____			
	<u> </u> = Total Cover		
50% of total cover: <u> </u>	20% of total cover: <u> </u>		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>30</u>	x 1 = <u>30</u>
FACW species <u>20</u>	x 2 = <u>40</u>
FAC species <u>25</u>	x 3 = <u>75</u>
FACU species <u>15</u>	x 4 = <u>60</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>90</u> (A)	<u>205</u> (B)
Prevalence Index = B/A = <u>2.28</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators 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 X No

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

SOIL

Sampling Point: WO-WET**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 4/2	100					Loamy/Clayey	
3-12	10YR 4/2	80	10YR 4/6	20	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils³:**

☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)	☐ 1 cm Muck (A9) (LRR O)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)	☐ 2 cm Muck (A10) (LRR S)
☐ Black Histic (A3)	☐ (MLRA 153B, 153D)	☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)	☐ Reduced Vertic (F18)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)	☐ (outside MLRA 150A, 150B)
☐ Organic Bodies (A6) (LRR P, T, U)	☒ Depleted Matrix (F3)	☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)	☐ (MLRA 153B)
☐ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)	☐ Red Parent Material (F21)
☐ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)	☐ (outside MLRA 138, 152A in FL, 154)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)	☐ Other (Explain in Remarks)
☐ Iron Monosulfide (A18)	☐ Umbric Surface (F13) (LRR P, T, U)	
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)	
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)	
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)	
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)	
☐ Dark Surface (S7) (LRR P, S, T, U)	☐ (MLRA 149A, 153C, 153D)	
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)	
☐ (LRR S, T, U)	☐ (MLRA 138, 152A in FL, 154)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/08/2026
Applicant/Owner: NCDOT State: NC Sampling Point: WP-WET
Investigator(s): Trevor Hall, PWS Section, Township, Range: N/A
Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.872656 Long: -75.930399 Datum: NAD 83
Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: PFO4B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
Are Vegetation X , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No X
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 <u> X </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u>
Hydric Soil Present? Yes <u> X </u> No <u> </u>	
Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	

Remarks:
NCWAM Wetland Type: Riverine Swamp Forest/ Tidal Freshwater Marsh. Wetland form taken in forested portion of wetland. The APT readout shows drier than usual conditions during the duration of the field investigations.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u> </u> Aquatic Fauna (B13) <u> X </u> High Water Table (A2) <u> </u> Marl Deposits (B15) (LRR U) <u> X </u> Saturation (A3) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Water Marks (B1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Sediment Deposits (B2) <u> </u> Presence of Reduced Iron (C4) <u> </u> Drift Deposits (B3) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Algal Mat or Crust (B4) <u> </u> Thin Muck Surface (C7) <u> </u> Iron Deposits (B5) <u> </u> Other (Explain in Remarks) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> X </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> X </u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)
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Field Observations: Surface Water Present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Water Table Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 9 </u> Saturation Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 4 </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> X </u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

 Sampling Point: WP-WET

<u>Tree Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Pinus taeda</i></u>	<u>40</u>	<u>Yes</u>	<u>FAC</u>
2.	<u><i>Liquidambar styraciflua</i></u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>
3.	<u><i>Gordonia lasianthus</i></u>	<u>5</u>	<u>No</u>	<u>FACW</u>
4.				
5.				
6.				
7.				
8.				
		<u>65</u>	<u>=Total Cover</u>	

 50% of total cover: 33 20% of total cover: 13

<u>Sapling/Shrub Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Quercus phellos</i></u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>
2.	<u><i>Quercus nigra</i></u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>
3.	<u><i>Persea borbonia</i></u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>
4.				
5.				
6.				
7.				
8.				
		<u>15</u>	<u>=Total Cover</u>	

 50% of total cover: 8 20% of total cover: 3

<u>Herb Stratum</u> (Plot size: <u>5 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Woodwardia areolata</i></u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		<u>20</u>	<u>=Total Cover</u>	

 50% of total cover: 10 20% of total cover: 4

<u>Woody Vine Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Smilax rotundifolia</i></u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>
2.				
3.				
4.				
5.				
		<u>10</u>	<u>=Total Cover</u>	

 50% of total cover: 5 20% of total cover: 2
Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>20</u>	x 1 = <u>20</u>
FACW species <u>15</u>	x 2 = <u>30</u>
FAC species <u>75</u>	x 3 = <u>225</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>110</u> (A)	<u>275</u> (B)
Prevalence Index = B/A = <u>2.50</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators 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 X No

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

SOIL

Sampling Point: WP-WET

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 2/1	100					Muck	
4-12	10YR 5/1	95	10YR 4/6	5	C	M	Loamy/Clayey	Prominent redox concentrations
12-16	10YR 5/1	80	10YR 4/6	20	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils³:**

☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)	☐ 1 cm Muck (A9) (LRR O)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)	☐ 2 cm Muck (A10) (LRR S)
☐ Black Histic (A3)	☐ (MLRA 153B, 153D)	☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)	☐ Reduced Vertic (F18)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)	☐ (outside MLRA 150A, 150B)
☐ Organic Bodies (A6) (LRR P, T, U)	☒ Depleted Matrix (F3)	☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)	☐ (MLRA 153B)
☒ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)	☐ Red Parent Material (F21)
☒ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)	☐ (outside MLRA 138, 152A in FL, 154)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)	☐ Other (Explain in Remarks)
☐ Iron Monosulfide (A18)	☐ Umbric Surface (F13) (LRR P, T, U)	
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)	
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)	
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)	
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)	
☐ Dark Surface (S7) (LRR P, S, T, U)	☐ (MLRA 149A, 153C, 153D)	
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)	
☐ (LRR S, T, U)	☐ (MLRA 138, 152A in FL, 154)	

³Indicators 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:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/08/2026

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

Investigator(s): David Cooper Section, Township, Range: N/A

Landform (hillside, terrace, etc.): dove field Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.871971 Long: -75.931283 Datum: NAD 83

Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: PEM

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> X </u> No <u> </u> Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u>
Remarks: NCWAM Wetland Type: Tidal Freshwater Marsh. This wetland appears to be mowed periodically. The APT readout shows drier than usual conditions during the duration of the field investigations.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> X </u> Surface Water (A1) <u> X </u> High Water Table (A2) <u> X </u> Saturation (A3) <u> </u> Water Marks (B1) <u> </u> Sediment Deposits (B2) <u> </u> Drift Deposits (B3) <u> </u> Algal Mat or Crust (B4) <u> </u> Iron Deposits (B5) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Water-Stained Leaves (B9) <u> </u> Aquatic Fauna (B13) <u> </u> Marl Deposits (B15) (LRR U) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Presence of Reduced Iron (C4) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Thin Muck Surface (C7) <u> </u> Other (Explain in Remarks)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> X </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> X </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> X </u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 1 </u> Water Table Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 0 </u> Saturation Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 0 </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> X </u> No <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

 Sampling Point: WQ-WET

Tree Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Absent</u>			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
	<u> </u> = Total Cover		
50% of total cover: <u> </u>	20% of total cover: <u> </u>		

Sapling/Shrub Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer rubrum</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
	<u>5</u> = Total Cover		
50% of total cover: <u>3</u>	20% of total cover: <u>1</u>		

Herb Stratum (Plot size: <u>5 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juncus effusus</u>	<u>30</u>	<u>Yes</u>	<u>OBL</u>
2. <u>Rubus argutus</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>
3. <u>Lespedeza cuneata</u>	<u>15</u>	<u>No</u>	<u>FACU</u>
4. <u>Phragmites australis</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
12. _____			
	<u>85</u> = Total Cover		
50% of total cover: <u>43</u>	20% of total cover: <u>17</u>		

Woody Vine Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Absent</u>			
2. _____			
3. _____			
4. _____			
5. _____			
	<u> </u> = Total Cover		
50% of total cover: <u> </u>	20% of total cover: <u> </u>		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>30</u>	x 1 = <u>30</u>
FACW species <u>20</u>	x 2 = <u>40</u>
FAC species <u>25</u>	x 3 = <u>75</u>
FACU species <u>15</u>	x 4 = <u>60</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>90</u> (A)	<u>205</u> (B)
Prevalence Index = B/A = <u>2.28</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators 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 X No

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

SOIL

Sampling Point: WQ-WET**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 4/2	100					Loamy/Clayey	
3-12	10YR 4/2	80	10YR 4/6	20	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils³:**

☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)	☐ 1 cm Muck (A9) (LRR O)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)	☐ 2 cm Muck (A10) (LRR S)
☐ Black Histic (A3)	☐ (MLRA 153B, 153D)	☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)	☐ Reduced Vertic (F18)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)	☐ (outside MLRA 150A, 150B)
☐ Organic Bodies (A6) (LRR P, T, U)	☒ Depleted Matrix (F3)	☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)	☐ (MLRA 153B)
☐ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)	☐ Red Parent Material (F21)
☐ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)	☐ (outside MLRA 138, 152A in FL, 154)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)	☐ Other (Explain in Remarks)
☐ Iron Monosulfide (A18)	☐ Umbric Surface (F13) (LRR P, T, U)	
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)	
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)	
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)	
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)	
☐ Dark Surface (S7) (LRR P, S, T, U)	☐ (MLRA 149A, 153C, 153D)	
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)	
☐ (LRR S, T, U)	☐ (MLRA 138, 152A in FL, 154)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/08/2026

Applicant/Owner: NCDOT State: NC Sampling Point: WS-Wet

Investigator(s): Trevor Hall, PWS and Annie Dahlem, PWS Section, Township, Range: N/A

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.866524 Long: -75.918847 Datum: NAD 83

Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: PFO4Bd

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> X </u> No <u> </u> Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u>
Remarks: NCWAM Wetland Type: Riverine Swamp Forest. The APT readout shows drier than usual conditions during the duration of the field investigations.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u> </u> High Water Table (A2) <u> X </u> Saturation (A3) <u> </u> Water Marks (B1) <u> </u> Sediment Deposits (B2) <u> </u> Drift Deposits (B3) <u> </u> Algal Mat or Crust (B4) <u> </u> Iron Deposits (B5) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Water-Stained Leaves (B9) <u> </u> Aquatic Fauna (B13) <u> </u> Marl Deposits (B15) (LRR U) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Presence of Reduced Iron (C4) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Thin Muck Surface (C7) <u> </u> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> X </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> X </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> </u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Saturation Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 4 </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:		

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

 Sampling Point: WS-Wet

<u>Tree Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Pinus taeda</i></u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>
2.	<u><i>Quercus nigra</i></u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>
3.	<u><i>Quercus rubra</i></u>	<u>15</u>	<u>No</u>	<u>FACU</u>
4.	<u><i>Quercus michauxii</i></u>	<u>15</u>	<u>No</u>	<u>FACW</u>
5.				
6.				
7.				
8.				
		<u>80</u>	<u>=Total Cover</u>	
50% of total cover: <u>40</u>		20% of total cover: <u>16</u>		

<u>Sapling/Shrub Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Magnolia virginiana</i></u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>
2.	<u><i>Quercus nigra</i></u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>
3.	<u><i>Acer rubrum</i></u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>
4.				
5.				
6.				
7.				
8.				
		<u>45</u>	<u>=Total Cover</u>	
50% of total cover: <u>23</u>		20% of total cover: <u>9</u>		

<u>Herb Stratum</u> (Plot size: <u>5 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Parthenocissus quinquefolia</i></u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		<u>20</u>	<u>=Total Cover</u>	
50% of total cover: <u>10</u>		20% of total cover: <u>4</u>		

<u>Woody Vine Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Vitis rotundifolia</i></u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>
2.	<u><i>Parthenocissus quinquefolia</i></u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>
3.				
4.				
5.				
		<u>10</u>	<u>=Total Cover</u>	
50% of total cover: <u>5</u>		20% of total cover: <u>2</u>		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>40</u>	x 2 = <u>80</u>
FAC species <u>75</u>	x 3 = <u>225</u>
FACU species <u>40</u>	x 4 = <u>160</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>155</u> (A)	<u>465</u> (B)
Prevalence Index = B/A = <u>3.00</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators 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 X No

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

SOIL

Sampling Point: WS-Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10YR 5/1	100					Loamy/Clayey	
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.)						Indicators for Problematic Hydric Soils³:		
☐ Histosol (A1)			☐ Thin Dark Surface (S9) (LRR S, T, U)			☐ 1 cm Muck (A9) (LRR O)		
☐ Histic Epipedon (A2)			☐ Barrier Islands 1 cm Muck (S12)			☐ 2 cm Muck (A10) (LRR S)		
☐ Black Histic (A3)			(MLRA 153B, 153D)			☐ Coast Prairie Redox (A16) (MLRA 149A)		
☐ Hydrogen Sulfide (A4)			☐ Loamy Mucky Mineral (F1) (LRR O)			☐ Reduced Vertic (F18)		
☐ Stratified Layers (A5)			☐ Loamy Gleyed Matrix (F2)			(outside MLRA 150A, 150B)		
☐ Organic Bodies (A6) (LRR P, T, U)			☒ Depleted Matrix (F3)			☐ Piedmont Floodplain Soils (F19) (LRR P, T)		
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)			☐ Redox Dark Surface (F6)			☐ Anomalous Bright Floodplain Soils (F20)		
☐ Muck Presence (A8) (LRR U)			☐ Depleted Dark Surface (F7)			(MLRA 153B)		
☐ 1 cm Muck (A9) (LRR P, T)			☐ Redox Depressions (F8)			☐ Red Parent Material (F21)		
☐ Depleted Below Dark Surface (A11)			☐ Marl (F10) (LRR U)			☐ Very Shallow Dark Surface (F22)		
☐ Thick Dark Surface (A12)			☐ Depleted Ochric (F11) (MLRA 151)			(outside MLRA 138, 152A in FL, 154)		
☐ Coast Prairie Redox (A16) (MLRA 150A)			☐ Iron-Manganese Masses (F12) (LRR O, P, T)			☐ Other (Explain in Remarks)		
☐ Iron Monosulfide (A18)			☐ Umbric Surface (F13) (LRR P, T, U)					
☐ Sandy Mucky Mineral (S1) (LRR O, S)			☐ Delta Ochric (F17) (MLRA 151)					
☐ Sandy Gleyed Matrix (S4)			☐ Reduced Vertic (F18) (MLRA 150A, 150B)					
☐ Sandy Redox (S5)			☐ Piedmont Floodplain Soils (F19) (MLRA 149A)					
☐ Stripped Matrix (S6)			☐ Anomalous Bright Floodplain Soils (F20)					
☐ Dark Surface (S7) (LRR P, S, T, U)			(MLRA 149A, 153C, 153D)			³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
☐ Polyvalue Below Surface (S8)			☐ Very Shallow Dark Surface (F22)					
(LRR S, T, U)			(MLRA 138, 152A in FL, 154)					
Restrictive Layer (if observed):								
Type: _____								
Depth (inches): _____						Hydric Soil Present? Yes ☒ No ☐		
Remarks:								

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/08/2026

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

Investigator(s): David Cooper Section, Township, Range: N/A

Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.865754 Long: -75.918595 Datum: NAD 83

Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: PFO4Bd

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> X </u> No <u> </u> Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u>
Remarks: NCWAM Wetland Type: Riverine Swamp Forest. The APT readout shows drier than usual conditions during the duration of the field investigations.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u> X </u> High Water Table (A2) <u> X </u> Saturation (A3) <u> </u> Water Marks (B1) <u> </u> Sediment Deposits (B2) <u> </u> Drift Deposits (B3) <u> </u> Algal Mat or Crust (B4) <u> </u> Iron Deposits (B5) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Water-Stained Leaves (B9) <u> </u> Aquatic Fauna (B13) <u> </u> Marl Deposits (B15) (LRR U) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Presence of Reduced Iron (C4) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Thin Muck Surface (C7) <u> </u> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> X </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> X </u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Water Table Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 11 </u> Saturation Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 4 </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Small pockets of standing water less than 1" deep.		

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

 Sampling Point: WT-WET

<u>Tree Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Quercus nigra</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>
2.	<u>Acer rubrum</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>
3.	<u>Pinus taeda</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>
4.	<u>Liquidambar styraciflua</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>
5.				
6.				
7.				
8.				
		<u>100</u>	<u>=Total Cover</u>	

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

<u>Sapling/Shrub Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Arundinaria tecta</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>
2.	<u>Morella cerifera</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>
3.	<u>Quercus nigra</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>
4.				
5.				
6.				
7.				
8.				
		<u>20</u>	<u>=Total Cover</u>	

 50% of total cover: 10 20% of total cover: 4

<u>Herb Stratum</u> (Plot size: <u>5 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Woodwardia areolata</u>	<u>10</u>	<u>Yes</u>	<u>OBL</u>
2.	<u>Persea borbonia</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		<u>15</u>	<u>=Total Cover</u>	

 50% of total cover: 8 20% of total cover: 3

<u>Woody Vine Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Smilax rotundifolia</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>
2.				
3.				
4.				
5.				
		<u>10</u>	<u>=Total Cover</u>	

 50% of total cover: 5 20% of total cover: 2
Dominance Test worksheet:

 Number of Dominant Species That Are OBL, FACW, or FAC: 10 (A)

 Total Number of Dominant Species Across All Strata: 10 (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>10</u>	x 1 = <u>10</u>
FACW species <u>15</u>	x 2 = <u>30</u>
FAC species <u>120</u>	x 3 = <u>360</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>145</u> (A)	<u>400</u> (B)
Prevalence Index = B/A = <u>2.76</u>	

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0¹
- Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators 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 X No

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

SOIL

Sampling Point: WT-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4/2	100					Loamy/Clayey	
6-8	10YR 4/2	80	10YR 4/6	20	C	M	Loamy/Clayey	Prominent redox concentrations
8-16	10YR 4/2	60	10YR 4/6	40	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)	☐ 1 cm Muck (A9) (LRR O)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)	☐ 2 cm Muck (A10) (LRR S)
☐ Black Histic (A3)	☐ (MLRA 153B, 153D)	☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)	☐ Reduced Vertic (F18)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)	☐ (outside MLRA 150A, 150B)
☐ Organic Bodies (A6) (LRR P, T, U)	☒ Depleted Matrix (F3)	☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)	☐ (MLRA 153B)
☐ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)	☐ Red Parent Material (F21)
☐ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)	☐ (outside MLRA 138, 152A in FL, 154)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)	☐ Other (Explain in Remarks)
☐ Iron Monosulfide (A18)	☐ Umbric Surface (F13) (LRR P, T, U)	
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)	
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)	
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)	
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)	
☐ Dark Surface (S7) (LRR P, S, T, U)	☐ (MLRA 149A, 153C, 153D)	
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)	
☐ (LRR S, T, U)	☐ (MLRA 138, 152A in FL, 154)	

³Indicators 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:	

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/15/2026

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

Investigator(s): Trevor Hall, PWS Section, Township, Range: N/A

Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 3

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.865820 Long: -75.917878 Datum: NAD 83

Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: PFO4B

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> X </u> No <u> </u> Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u>
Remarks: NCWAM Wetland Type: Riverine Swamp Forest. The APT readout shows drier than usual conditions during the duration of the field investigations.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ☒ 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 on Living Roots (C3) ☐ Presence of Reduced Iron (C4) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Thin Muck Surface (C7) ☐ Other (Explain in Remarks)	<u>Secondary Indicators (minimum of two required)</u> ☐ 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 <u> X </u> No <u> </u> Depth (inches): <u> 1 </u> Water Table Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 0 </u> Saturation Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 0 </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> X </u> No <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Standing water in wetland abuts JDY.	

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

 Sampling Point: WU-WET

<u>Tree Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Pinus taeda</i></u>	<u>75</u>	<u>Yes</u>	<u>FAC</u>
2.	<u></u>	<u></u>	<u></u>	<u></u>
3.	<u></u>	<u></u>	<u></u>	<u></u>
4.	<u></u>	<u></u>	<u></u>	<u></u>
5.	<u></u>	<u></u>	<u></u>	<u></u>
6.	<u></u>	<u></u>	<u></u>	<u></u>
7.	<u></u>	<u></u>	<u></u>	<u></u>
8.	<u></u>	<u></u>	<u></u>	<u></u>
		<u>75</u> =Total Cover		
50% of total cover: <u>38</u>		20% of total cover: <u>15</u>		

<u>Sapling/Shrub Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Morella cerifera</i></u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>
2.	<u><i>Baccharis halimifolia</i></u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>
3.	<u></u>	<u></u>	<u></u>	<u></u>
4.	<u></u>	<u></u>	<u></u>	<u></u>
5.	<u></u>	<u></u>	<u></u>	<u></u>
6.	<u></u>	<u></u>	<u></u>	<u></u>
7.	<u></u>	<u></u>	<u></u>	<u></u>
8.	<u></u>	<u></u>	<u></u>	<u></u>
		<u>60</u> =Total Cover		
50% of total cover: <u>30</u>		20% of total cover: <u>12</u>		

<u>Herb Stratum</u> (Plot size: <u>5 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Typha latifolia</i></u>	<u>15</u>	<u>Yes</u>	<u>OBL</u>
2.	<u><i>Woodwardia areolata</i></u>	<u>10</u>	<u>Yes</u>	<u>OBL</u>
3.	<u><i>Hydrocotyle umbellata</i></u>	<u>5</u>	<u>No</u>	<u>OBL</u>
4.	<u><i>Alternanthera philoxeroides</i></u>	<u>5</u>	<u>No</u>	<u>OBL</u>
5.	<u></u>	<u></u>	<u></u>	<u></u>
6.	<u></u>	<u></u>	<u></u>	<u></u>
7.	<u></u>	<u></u>	<u></u>	<u></u>
8.	<u></u>	<u></u>	<u></u>	<u></u>
9.	<u></u>	<u></u>	<u></u>	<u></u>
10.	<u></u>	<u></u>	<u></u>	<u></u>
11.	<u></u>	<u></u>	<u></u>	<u></u>
12.	<u></u>	<u></u>	<u></u>	<u></u>
		<u>35</u> =Total Cover		
50% of total cover: <u>18</u>		20% of total cover: <u>7</u>		

<u>Woody Vine Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Toxicodendron radicans</i></u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>
2.	<u></u>	<u></u>	<u></u>	<u></u>
3.	<u></u>	<u></u>	<u></u>	<u></u>
4.	<u></u>	<u></u>	<u></u>	<u></u>
5.	<u></u>	<u></u>	<u></u>	<u></u>
		<u>10</u> =Total Cover		
50% of total cover: <u>5</u>		20% of total cover: <u>2</u>		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>35</u>	x 1 = <u>35</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>145</u>	x 3 = <u>435</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>180</u> (A)	<u>470</u> (B)
Prevalence Index = B/A = <u>2.61</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators 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 X No

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

SOIL

Sampling Point: WU-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 2/1	100					Loamy/Clayey	
3-18	10YR 4/1	90	10YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations
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.)							Indicators for Problematic Hydric Soils³:	
☐ Histosol (A1)			☐ Thin Dark Surface (S9) (LRR S, T, U)				☐ 1 cm Muck (A9) (LRR O)	
☐ Histic Epipedon (A2)			☐ Barrier Islands 1 cm Muck (S12)				☐ 2 cm Muck (A10) (LRR S)	
☐ Black Histic (A3)			☐ (MLRA 153B, 153D)				☐ Coast Prairie Redox (A16) (MLRA 149A)	
☐ Hydrogen Sulfide (A4)			☐ Loamy Mucky Mineral (F1) (LRR O)				☐ Reduced Vertic (F18)	
☐ Stratified Layers (A5)			☐ Loamy Gleyed Matrix (F2)				☐ (outside MLRA 150A, 150B)	
☐ Organic Bodies (A6) (LRR P, T, U)			☒ Depleted Matrix (F3)				☐ Piedmont Floodplain Soils (F19) (LRR P, T)	
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)			☐ Redox Dark Surface (F6)				☐ Anomalous Bright Floodplain Soils (F20)	
☐ Muck Presence (A8) (LRR U)			☐ Depleted Dark Surface (F7)				☐ (MLRA 153B)	
☐ 1 cm Muck (A9) (LRR P, T)			☐ Redox Depressions (F8)				☐ Red Parent Material (F21)	
☒ Depleted Below Dark Surface (A11)			☐ Marl (F10) (LRR U)				☐ Very Shallow Dark Surface (F22)	
☐ Thick Dark Surface (A12)			☐ Depleted Ochric (F11) (MLRA 151)				☐ (outside MLRA 138, 152A in FL, 154)	
☐ Coast Prairie Redox (A16) (MLRA 150A)			☐ Iron-Manganese Masses (F12) (LRR O, P, T)				☐ Other (Explain in Remarks)	
☐ Iron Monosulfide (A18)			☐ Umbric Surface (F13) (LRR P, T, U)					
☐ Sandy Mucky Mineral (S1) (LRR O, S)			☐ Delta Ochric (F17) (MLRA 151)					
☐ Sandy Gleyed Matrix (S4)			☐ Reduced Vertic (F18) (MLRA 150A, 150B)					
☐ Sandy Redox (S5)			☐ Piedmont Floodplain Soils (F19) (MLRA 149A)					
☐ Stripped Matrix (S6)			☐ Anomalous Bright Floodplain Soils (F20)					
☐ Dark Surface (S7) (LRR P, S, T, U)			☐ (MLRA 149A, 153C, 153D)				³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
☐ Polyvalue Below Surface (S8)			☐ Very Shallow Dark Surface (F22)					
☐ (LRR S, T, U)			☐ (MLRA 138, 152A in FL, 154)					
Restrictive Layer (if observed):								
Type: _____						Hydric Soil Present? Yes ☒ No _____		
Depth (inches): _____								
Remarks:								

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/16/2026

Applicant/Owner: NCDOT State: NC Sampling Point: WV/WX-WET

Investigator(s): Trevor Hall, PWS Section, Township, Range: N/A

Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.870981 Long: -75.892055 Datum: NAD 83

Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: PFO4/1Bd

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> X </u> No <u> </u> Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u>
Remarks: NCWAM Wetland Type: Riverine Swamp Forest. The APT readout shows drier than usual conditions during the duration of the field investigations.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u> </u> High Water Table (A2) <u> X </u> Saturation (A3) <u> </u> Water Marks (B1) <u> </u> Sediment Deposits (B2) <u> </u> Drift Deposits (B3) <u> </u> Algal Mat or Crust (B4) <u> </u> Iron Deposits (B5) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> X </u> Water-Stained Leaves (B9) <u> </u> Aquatic Fauna (B13) <u> </u> Marl Deposits (B15) (LRR U) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Presence of Reduced Iron (C4) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> X </u> Thin Muck Surface (C7) <u> </u> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> X </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> X </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> X </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> X </u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Saturation Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 6 </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Standing water increased in prevalence/depth away from US 64.		

Sampling Point: WV/WX-WET

Tree Stratum (Plot size: 10 m)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <i>Pinus taeda</i>	40	Yes	FAC	
2. <i>Liquidambar styraciflua</i>	20	Yes	FAC	
3. <i>Nyssa biflora</i>	20	Yes	OBL	
4. <i>Acer rubrum</i>	10	No	FAC	
5.				
6.				
7.				
8.				
	90	=Total Cover		
50% of total cover:	45	20% of total cover:	18	
Sapling/Shrub Stratum (Plot size: 10 m)				
1. <i>Persea palustris</i>	30	Yes	FACW	
2. <i>Morella cerifera</i>	15	Yes	FAC	
3. <i>Quercus laurifolia</i>	10	No	FACW	
4.				
5.				
6.				
7.				
8.				
	55	=Total Cover		
50% of total cover:	28	20% of total cover:	11	
Herb Stratum (Plot size: 5 m)				
1. <i>Juncus effusus</i>	15	Yes	OBL	
2. <i>Scirpus cyperinus</i>	10	Yes	OBL	
3. <i>Osmunda spectabilis</i>	10	Yes	OBL	
4. <i>Peltandra virginica</i>	10	Yes	OBL	
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	45	=Total Cover		
50% of total cover:	23	20% of total cover:	9	
Woody Vine Stratum (Plot size: 10 m)				
1. <i>Toxicodendron radicans</i>	5	Yes	FAC	
2. <i>Gelsemium sempervirens</i>	5	Yes	FAC	
3.				
4.				
5.				
	10	=Total Cover		
50% of total cover:	5	20% of total cover:	2	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 11 (A)

Total Number of Dominant Species Across All Strata: 11 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 65	x 1 = 65
FACW species 40	x 2 = 80
FAC species 95	x 3 = 285
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column Totals: 200 (A)	430 (B)
Prevalence Index = B/A = 2.15	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators 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 X No

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

SOIL

Sampling Point: WV/WX-WET**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 2/1	100					Mucky Loam/Clay	
8-18	10YR 6/1	80	10YR 5/4	20	C	M	Loamy/Clayey	Distinct redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils³:**

☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)	☐ 1 cm Muck (A9) (LRR O)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)	☐ 2 cm Muck (A10) (LRR S)
☐ Black Histic (A3)	(MLRA 153B, 153D)	☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)	☐ Reduced Vertic (F18)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)	(outside MLRA 150A, 150B)
☐ Organic Bodies (A6) (LRR P, T, U)	☒ Depleted Matrix (F3)	☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☒ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)	(MLRA 153B)
☐ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)	☐ Red Parent Material (F21)
☒ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)	(outside MLRA 138, 152A in FL, 154)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)	☐ Other (Explain in Remarks)
☐ Iron Monosulfide (A18)	☒ Umbric Surface (F13) (LRR P, T, U)	
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)	
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)	
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)	
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)	
☐ Dark Surface (S7) (LRR P, S, T, U)	(MLRA 149A, 153C, 153D)	
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)	
(LRR S, T, U)	(MLRA 138, 152A in FL, 154)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/16/2026

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

Investigator(s): Trevor Hall, PWS Section, Township, Range: N/A

Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 4

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.866907 Long: -75.916795 Datum: NAD 83

Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: PFO4B

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> X </u> No <u> </u> Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u>
Remarks: NCWAM Wetland Type: Riverine Swamp Forest. The APT readout shows drier than usual conditions during the duration of the field investigations.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u> X </u> High Water Table (A2) <u> X </u> Saturation (A3) <u> </u> Water Marks (B1) <u> </u> Sediment Deposits (B2) <u> </u> Drift Deposits (B3) <u> </u> Algal Mat or Crust (B4) <u> </u> Iron Deposits (B5) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> X </u> Water-Stained Leaves (B9) <u> </u> Aquatic Fauna (B13) <u> </u> Marl Deposits (B15) (LRR U) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Presence of Reduced Iron (C4) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Thin Muck Surface (C7) <u> </u> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> X </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> X </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> X </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> X </u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Water Table Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 10 </u> Saturation Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 0 </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:		

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

 Sampling Point: WW-WET

<u>Tree Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Pinus taeda</i></u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>
2.	<u><i>Quercus laurifolia</i></u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
3.	<u><i>Liquidambar styraciflua</i></u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>
4.	<u><i>Nyssa biflora</i></u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>
5.				
6.				
7.				
8.				
		<u>90</u>	<u>=Total Cover</u>	

 50% of total cover: 45 20% of total cover: 18

<u>Sapling/Shrub Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Acer rubrum</i></u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>
2.	<u><i>Arundinaria tecta</i></u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
3.	<u><i>Persea palustris</i></u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>
4.				
5.				
6.				
7.				
8.				
		<u>50</u>	<u>=Total Cover</u>	

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

<u>Herb Stratum</u> (Plot size: <u>5 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Osmunda cinnamomea</i></u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		<u>20</u>	<u>=Total Cover</u>	

 50% of total cover: 10 20% of total cover: 4

<u>Woody Vine Stratum</u> (Plot size: <u>10 m</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u><i>Bignonia capreolata</i></u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>
2.	<u><i>Lonicera sempervirens</i></u>	<u>4</u>	<u>Yes</u>	<u>FACU</u>
3.				
4.				
5.				
		<u>9</u>	<u>=Total Cover</u>	

 50% of total cover: 5 20% of total cover: 2
Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 9 (A)

Total Number of Dominant Species Across All Strata: 10 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 90.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>20</u>	x 1 = <u>20</u>
FACW species <u>70</u>	x 2 = <u>140</u>
FAC species <u>75</u>	x 3 = <u>225</u>
FACU species <u>4</u>	x 4 = <u>16</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>169</u> (A)	<u>401</u> (B)
Prevalence Index = B/A = <u>2.37</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators 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 X No

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

SOIL

Sampling Point: WW-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 4/2	85	10YR 4/6	15	C	M	Loamy/Clayey	
10-18	10YR 6/2	90	10YR 6/4	10	C	M	Loamy/Clayey	
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.)							Indicators for Problematic Hydric Soils³:	
☐ Histosol (A1)			☐ Thin Dark Surface (S9) (LRR S, T, U)				☐ 1 cm Muck (A9) (LRR O)	
☐ Histic Epipedon (A2)			☐ Barrier Islands 1 cm Muck (S12)				☐ 2 cm Muck (A10) (LRR S)	
☐ Black Histic (A3)			☐ (MLRA 153B, 153D)				☐ Coast Prairie Redox (A16) (MLRA 149A)	
☐ Hydrogen Sulfide (A4)			☐ Loamy Mucky Mineral (F1) (LRR O)				☐ Reduced Vertic (F18)	
☐ Stratified Layers (A5)			☐ Loamy Gleyed Matrix (F2)				☐ (outside MLRA 150A, 150B)	
☐ Organic Bodies (A6) (LRR P, T, U)			☒ Depleted Matrix (F3)				☐ Piedmont Floodplain Soils (F19) (LRR P, T)	
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)			☐ Redox Dark Surface (F6)				☐ Anomalous Bright Floodplain Soils (F20)	
☐ Muck Presence (A8) (LRR U)			☐ Depleted Dark Surface (F7)				☐ (MLRA 153B)	
☐ 1 cm Muck (A9) (LRR P, T)			☐ Redox Depressions (F8)				☐ Red Parent Material (F21)	
☐ Depleted Below Dark Surface (A11)			☐ Marl (F10) (LRR U)				☐ Very Shallow Dark Surface (F22)	
☐ Thick Dark Surface (A12)			☐ Depleted Ochric (F11) (MLRA 151)				☐ (outside MLRA 138, 152A in FL, 154)	
☐ Coast Prairie Redox (A16) (MLRA 150A)			☐ Iron-Manganese Masses (F12) (LRR O, P, T)				☐ Other (Explain in Remarks)	
☐ Iron Monosulfide (A18)			☐ Umbric Surface (F13) (LRR P, T, U)					
☐ Sandy Mucky Mineral (S1) (LRR O, S)			☐ Delta Ochric (F17) (MLRA 151)					
☐ Sandy Gleyed Matrix (S4)			☐ Reduced Vertic (F18) (MLRA 150A, 150B)					
☐ Sandy Redox (S5)			☐ Piedmont Floodplain Soils (F19) (MLRA 149A)					
☐ Stripped Matrix (S6)			☐ Anomalous Bright Floodplain Soils (F20)					
☐ Dark Surface (S7) (LRR P, S, T, U)			☐ (MLRA 149A, 153C, 153D)				³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
☐ Polyvalue Below Surface (S8)			☐ Very Shallow Dark Surface (F22)					
☐ (LRR S, T, U)			☐ (MLRA 138, 152A in FL, 154)					
Restrictive Layer (if observed):								
Type: _____						Hydric Soil Present? Yes <u> X </u> No <u> </u>		
Depth (inches): _____								
Remarks:								

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/16/2026

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

Investigator(s): Trevor Hall, PWS Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.867022 Long: -75.914225 Datum: NAD 83

Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: PFO4/SS4Bd

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

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

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 <u> X </u> No <u> </u> Hydric Soil Present? Yes <u> X </u> No <u> </u> Wetland Hydrology Present? Yes <u> X </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u>
Remarks: NCWAM Wetland Type: Tidal Freshwater Marsh. A majority of this wetland is mowed in right-of-way. The APT readout shows drier than usual conditions during the duration of the field investigations.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> X </u> Surface Water (A1) <u> X </u> High Water Table (A2) <u> X </u> Saturation (A3) <u> </u> Water Marks (B1) <u> </u> Sediment Deposits (B2) <u> </u> Drift Deposits (B3) <u> </u> Algal Mat or Crust (B4) <u> </u> Iron Deposits (B5) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> X </u> Water-Stained Leaves (B9) <u> </u> Aquatic Fauna (B13) <u> </u> Marl Deposits (B15) (LRR U) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Presence of Reduced Iron (C4) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Thin Muck Surface (C7) <u> </u> Other (Explain in Remarks)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> X </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> X </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> X </u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 1 </u> Water Table Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 0 </u> Saturation Present? Yes <u> X </u> No <u> </u> Depth (inches): <u> 0 </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> X </u> No <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Standing water in wetland abuts JDY.	

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

 Sampling Point: WY-WET

Tree Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Absent</u>			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			

_____ =Total Cover

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

Sapling/Shrub Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Baccharis halimifolia</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Morella cerifera</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>
3. <u>Acer rubrum</u>	<u>10</u>	<u>No</u>	<u>FAC</u>
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			

_____ =Total Cover

 50% of total cover: 28 20% of total cover: 11

Herb Stratum (Plot size: <u>5 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Typha latifolia</u>	<u>25</u>	<u>Yes</u>	<u>OBL</u>
2. <u>Woodwardia areolata</u>	<u>15</u>	<u>Yes</u>	<u>OBL</u>
3. <u>Swamp Saw-Grass</u>	<u>10</u>	<u>No</u>	<u>OBL</u>
4. <u>Alternanthera philoxeroides</u>	<u>10</u>	<u>No</u>	<u>OBL</u>
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
12. _____			

_____ =Total Cover

 50% of total cover: 30 20% of total cover: 12

Woody Vine Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Absent</u>			
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: 4 (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>60</u>	x 1 = <u>60</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>55</u>	x 3 = <u>165</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>115</u> (A)	<u>225</u> (B)
Prevalence Index = B/A = <u>1.96</u>	

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
☒ 2 - Dominance Test is >50%
☒ 3 - Prevalence Index is ≤3.0¹
 _____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators 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 X No _____

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

SOIL

Sampling Point: WY-WET

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/1	100					Loamy/Clayey	
2-18	10YR 5/2	70	10YR 5/6	30	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils³:**

☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)	☐ 1 cm Muck (A9) (LRR O)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)	☐ 2 cm Muck (A10) (LRR S)
☐ Black Histic (A3)	(MLRA 153B, 153D)	☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)	☐ Reduced Vertic (F18)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)	(outside MLRA 150A, 150B)
☐ Organic Bodies (A6) (LRR P, T, U)	☒ Depleted Matrix (F3)	☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)	(MLRA 153B)
☐ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)	☐ Red Parent Material (F21)
☒ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)	(outside MLRA 138, 152A in FL, 154)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)	☐ Other (Explain in Remarks)
☐ Iron Monosulfide (A18)	☐ Umbric Surface (F13) (LRR P, T, U)	
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)	
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)	
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)	
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)	
☐ Dark Surface (S7) (LRR P, S, T, U)	(MLRA 149A, 153C, 153D)	
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)	
(LRR S, T, U)	(MLRA 138, 152A in FL, 154)	

³Indicators 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:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/06/2026
Applicant/Owner: NCDOT State: NC Sampling Point: WA, WB, WE, WF-UP
Investigator(s): Annie Dahlem, PWS Section, Township, Range: N/A
Landform (hillside, terrace, etc.): berm Local relief (concave, convex, none): convex Slope (%): 4
Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.873017 Long: -75.893344 Datum: NAD 83
Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	

Remarks:
Upland berm separating wetland WB from a gravel driveway. The APT readout shows drier than usual conditions during the duration of the field investigations.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u> </u> Aquatic Fauna (B13) <u> </u> High Water Table (A2) <u> </u> Marl Deposits (B15) (LRR U) <u> </u> Saturation (A3) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Water Marks (B1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Sediment Deposits (B2) <u> </u> Presence of Reduced Iron (C4) <u> </u> Drift Deposits (B3) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Algal Mat or Crust (B4) <u> </u> Thin Muck Surface (C7) <u> </u> Iron Deposits (B5) <u> </u> Other (Explain in Remarks) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> </u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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, WB, WE, WF-UP

Tree Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status																									
1. <u><i>Pinus taeda</i></u>	15	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>85.7%</u> (A/B)																								
2. <u><i>Liquidambar styraciflua</i></u>	10	Yes	FAC																									
3. _____																												
4. _____																												
5. _____																												
6. _____																												
7. _____																												
8. _____																												
	25	=Total Cover		Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 40%;">Total % Cover of:</th> <th style="width: 20%;">Multiply by:</th> <th style="width: 40%;"></th> </tr> <tr> <td>OBL species <u>0</u></td> <td style="text-align: center;">x 1 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td style="text-align: center;">x 2 =</td> <td style="text-align: center;"><u>20</u></td> </tr> <tr> <td>FAC species <u>60</u></td> <td style="text-align: center;">x 3 =</td> <td style="text-align: center;"><u>180</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td style="text-align: center;">x 4 =</td> <td style="text-align: center;"><u>40</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td style="text-align: center;">x 5 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>Column Totals: <u>80</u> (A)</td> <td></td> <td style="text-align: center;"><u>240</u> (B)</td> </tr> <tr> <td colspan="3" style="text-align: center;">Prevalence Index = B/A = <u>3.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:		OBL species <u>0</u>	x 1 =	<u>0</u>	FACW species <u>10</u>	x 2 =	<u>20</u>	FAC species <u>60</u>	x 3 =	<u>180</u>	FACU species <u>10</u>	x 4 =	<u>40</u>	UPL species <u>0</u>	x 5 =	<u>0</u>	Column Totals: <u>80</u> (A)		<u>240</u> (B)	Prevalence Index = B/A = <u>3.00</u>		
Total % Cover of:	Multiply by:																											
OBL species <u>0</u>	x 1 =	<u>0</u>																										
FACW species <u>10</u>	x 2 =	<u>20</u>																										
FAC species <u>60</u>	x 3 =	<u>180</u>																										
FACU species <u>10</u>	x 4 =	<u>40</u>																										
UPL species <u>0</u>	x 5 =	<u>0</u>																										
Column Totals: <u>80</u> (A)		<u>240</u> (B)																										
Prevalence Index = B/A = <u>3.00</u>																												
50% of total cover: <u>13</u>		20% of total cover: <u>5</u>																										
Sapling/Shrub Stratum (Plot size: <u>10 m</u>)				Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																								
1. <u><i>Prunus caroliniana</i></u>	10	Yes	FACU																									
2. <u><i>Quercus phellos</i></u>	10	Yes	FACW																									
3. <u><i>Acer rubrum</i></u>	10	Yes	FAC																									
4. _____																												
5. _____																												
6. _____																												
7. _____																												
	30	=Total Cover																										
50% of total cover: <u>15</u>		20% of total cover: <u>6</u>																										
Herb Stratum (Plot size: <u>5 m</u>)				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.																								
1. <u>See remarks</u>																												
2. _____																												
3. _____																												
4. _____																												
5. _____																												
6. _____																												
7. _____																												
8. _____																												
9. _____																												
10. _____																												
11. _____																												
	=Total Cover																											
50% of total cover: _____		20% of total cover: _____																										
Woody Vine Stratum (Plot size: <u>10 m</u>)																												
1. <u><i>Smilax rotundifolia</i></u>	15	Yes	FAC																									
2. <u><i>Campsis radicans</i></u>	10	Yes	FAC																									
3. _____																												
4. _____																												
5. _____																												
	25	=Total Cover																										
50% of total cover: <u>13</u>		20% of total cover: <u>5</u>																										
Remarks: (If observed, list morphological adaptations below.) Carex sp. observed, but exact species was not identified.																												

SOIL

Sampling Point: WA, WB, WE, WF-UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 5/1	100					Sandy	
8-20	10YR 6/4	80	7.5YR 5/8	20	C	M	Sandy	Prominent redox concentrations
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.)							Indicators for Problematic Hydric Soils³:	
☐ Histosol (A1)			☐ Thin Dark Surface (S9) (LRR S, T, U)					
☐ Histic Epipedon (A2)			☐ Barrier Islands 1 cm Muck (S12)					
☐ Black Histic (A3)			☐ (MLRA 153B, 153D)					
☐ Hydrogen Sulfide (A4)			☐ Loamy Mucky Mineral (F1) (LRR O)					
☐ Stratified Layers (A5)			☐ Loamy Gleyed Matrix (F2)					
☐ Organic Bodies (A6) (LRR P, T, U)			☐ Depleted Matrix (F3)					
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)			☐ Redox Dark Surface (F6)					
☐ Muck Presence (A8) (LRR U)			☐ Depleted Dark Surface (F7)					
☐ 1 cm Muck (A9) (LRR P, T)			☐ Redox Depressions (F8)					
☐ Depleted Below Dark Surface (A11)			☐ Marl (F10) (LRR U)					
☐ Thick Dark Surface (A12)			☐ Depleted Ochric (F11) (MLRA 151)					
☐ Coast Prairie Redox (A16) (MLRA 150A)			☐ Iron-Manganese Masses (F12) (LRR O, P, T)					
☐ Iron Monosulfide (A18)			☐ Umbric Surface (F13) (LRR P, T, U)					
☐ Sandy Mucky Mineral (S1) (LRR O, S)			☐ Delta Ochric (F17) (MLRA 151)					
☐ Sandy Gleyed Matrix (S4)			☐ Reduced Vertic (F18) (MLRA 150A, 150B)					
☐ Sandy Redox (S5)			☐ Piedmont Floodplain Soils (F19) (MLRA 149A)					
☐ Stripped Matrix (S6)			☐ Anomalous Bright Floodplain Soils (F20)					
☐ Dark Surface (S7) (LRR P, S, T, U)			☐ (MLRA 149A, 153C, 153D)					
☐ Polyvalue Below Surface (S8) (LRR S, T, U)			☐ Very Shallow Dark Surface (F22) (MLRA 138, 152A in FL, 154)					
Restrictive Layer (if observed): Type: _____ Depth (inches): _____							Hydric Soil Present? Yes ____ No <u>X</u>	
Remarks:								

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/06/2026
Applicant/Owner: NCDOT State: NC Sampling Point: WC/WH-Up
Investigator(s): Trevor Hall, PWS Section, Township, Range: N/A
Landform (hillside, terrace, etc.): berm Local relief (concave, convex, none): convex Slope (%): 4
Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.868610 Long: -75.909733 Datum: NAD 83
Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	

Remarks:
Upland berm along gravel roadway separating WC and WH. The APT readout shows drier than usual conditions during the duration of the field investigations.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u> </u> Aquatic Fauna (B13) <u> </u> High Water Table (A2) <u> </u> Marl Deposits (B15) (LRR U) <u> </u> Saturation (A3) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Water Marks (B1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Sediment Deposits (B2) <u> </u> Presence of Reduced Iron (C4) <u> </u> Drift Deposits (B3) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Algal Mat or Crust (B4) <u> </u> Thin Muck Surface (C7) <u> </u> Iron Deposits (B5) <u> </u> Other (Explain in Remarks) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> </u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

 Sampling Point: WC/WH-Up

Tree Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u><i>Pinus taeda</i></u>	40	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>8</u> (A) Total Number of Dominant Species Across All Strata: <u>12</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)																
2. <u><i>Liquidambar styraciflua</i></u>	20	Yes	FAC																	
3. <u><i>Liriodendron tulipifera</i></u>	20	Yes	FACU																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
80 = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 40%;">Total % Cover of:</th> <th style="width: 60%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>130</u></td> <td>x 3 = <u>390</u></td> </tr> <tr> <td>FACU species <u>70</u></td> <td>x 4 = <u>280</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>220</u> (A)</td> <td><u>710</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.23</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>20</u>	x 2 = <u>40</u>	FAC species <u>130</u>	x 3 = <u>390</u>	FACU species <u>70</u>	x 4 = <u>280</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>220</u> (A)	<u>710</u> (B)	Prevalence Index = B/A = <u>3.23</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>20</u>	x 2 = <u>40</u>																			
FAC species <u>130</u>	x 3 = <u>390</u>																			
FACU species <u>70</u>	x 4 = <u>280</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>220</u> (A)	<u>710</u> (B)																			
Prevalence Index = B/A = <u>3.23</u>																				
50% of total cover: <u>40</u> 20% of total cover: <u>16</u>																				
Sapling/Shrub Stratum (Plot size: <u>10 m</u>)																				
1. <u><i>Prunus caroliniana</i></u>	30	Yes	FACU	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																
2. <u><i>Morella cerifera</i></u>	20	Yes	FAC																	
3. <u><i>Arundinaria tecta</i></u>	20	Yes	FACW																	
4. <u><i>Liquidambar styraciflua</i></u>	15	No	FAC																	
5. _____																				
6. _____																				
7. _____																				
8. _____																				
85 = Total Cover																				
50% of total cover: <u>43</u> 20% of total cover: <u>17</u>																				
Herb Stratum (Plot size: <u>5 m</u>)																				
1. <u><i>Vitis rotundifolia</i></u>	20	Yes	FAC	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.																
2. <u><i>Parthenocissus quinquefolia</i></u>	15	Yes	FACU																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
35 = Total Cover																				
50% of total cover: <u>18</u> 20% of total cover: <u>7</u>																				
Woody Vine Stratum (Plot size: <u>10 m</u>)																				
1. <u><i>Smilax bona-nox</i></u>	5	Yes	FAC	Hydrophytic Vegetation Present? Yes <u>X</u> No _____																
2. <u><i>Campsis radicans</i></u>	5	Yes	FAC																	
3. <u><i>Vitis rotundifolia</i></u>	5	Yes	FAC																	
4. <u><i>Parthenocissus quinquefolia</i></u>	5	Yes	FACU																	
5. _____																				
20 = Total Cover																				
50% of total cover: <u>10</u> 20% of total cover: <u>4</u>																				
Remarks: (If observed, list morphological adaptations below.)																				

SOIL

Sampling Point: WC/WH-Up**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/3	100					Loamy/Clayey	
4-12	10YR 4/3	100					Loamy/Clayey	
12-18	10YR 4/1	90	10YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)
☐ Black Histic (A3)	☐ (MLRA 153B, 153D)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)
☐ Organic Bodies (A6) (LRR P, T, U)	☐ Depleted Matrix (F3)
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)
☐ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)
☐ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)
☐ Iron Monosulfide (A18)	☐ Umbric Surface (F13) (LRR P, T, U)
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Dark Surface (S7) (LRR P, S, T, U)	☐ (MLRA 149A, 153C, 153D)
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)
☐ (LRR S, T, U)	☐ (MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) (LRR O)
☐ 2 cm Muck (A10) (LRR S)
☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Reduced Vertic (F18)
☐ (outside MLRA 150A, 150B)
☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☐ Anomalous Bright Floodplain Soils (F20)
☐ (MLRA 153B)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (F22)
☐ (outside MLRA 138, 152A in FL, 154)
☐ Other (Explain in Remarks)

³Indicators 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 X

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/07/2026
Applicant/Owner: NCDOT State: NC Sampling Point: WD/WG-Up
Investigator(s): Trevor Hall, PWS Section, Township, Range: N/A
Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.871214 Long: -75.896442 Datum: NAD 83
Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	

Remarks:
The APT readout shows drier than usual conditions during the duration of the field investigations.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u> </u> Aquatic Fauna (B13) <u> </u> High Water Table (A2) <u> </u> Marl Deposits (B15) (LRR U) <u> </u> Saturation (A3) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Water Marks (B1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Sediment Deposits (B2) <u> </u> Presence of Reduced Iron (C4) <u> </u> Drift Deposits (B3) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Algal Mat or Crust (B4) <u> </u> Thin Muck Surface (C7) <u> </u> Iron Deposits (B5) <u> </u> Other (Explain in Remarks) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u>X</u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)
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Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

 Sampling Point: WD/WG-Up

Tree Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u><i>Pinus taeda</i></u>	40	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>8</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. <u><i>Liquidambar styraciflua</i></u>	40	Yes	FAC																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
	80	=Total Cover		Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 40%;">Total % Cover of:</th> <th style="width: 60%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>x 2 = <u>30</u></td> </tr> <tr> <td>FAC species <u>145</u></td> <td>x 3 = <u>435</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>160</u> (A)</td> <td><u>465</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.91</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>15</u>	x 2 = <u>30</u>	FAC species <u>145</u>	x 3 = <u>435</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>160</u> (A)	<u>465</u> (B)	Prevalence Index = B/A = <u>2.91</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>15</u>	x 2 = <u>30</u>																			
FAC species <u>145</u>	x 3 = <u>435</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>160</u> (A)	<u>465</u> (B)																			
Prevalence Index = B/A = <u>2.91</u>																				
50% of total cover: <u>40</u>	20% of total cover: <u>16</u>																			
Sapling/Shrub Stratum (Plot size: <u>10 m</u>)																				
1. <u><i>Morella cerifera</i></u>	25	Yes	FAC	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																
2. <u><i>Acer rubrum</i></u>	15	Yes	FAC																	
3. <u><i>Arundinaria tecta</i></u>	15	Yes	FACW																	
4. <u><i>Liquidambar styraciflua</i></u>	15	Yes	FAC																	
5. _____																				
6. _____																				
7. _____																				
8. _____																				
	70	=Total Cover																		
50% of total cover: <u>35</u>	20% of total cover: <u>14</u>																			
Herb Stratum (Plot size: <u>5 m</u>)																				
1. <u><i>Absent</i></u>				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.																
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: <u>10 m</u>)																				
1. <u><i>Gelsemium sempervirens</i></u>	5	Yes	FAC	Hydrophytic Vegetation Present? Yes <u>X</u> No _____																
2. <u><i>Toxicodendron radicans</i></u>	5	Yes	FAC																	
3. _____																				
4. _____																				
5. _____																				
	10	=Total Cover																		
50% of total cover: <u>5</u>	20% of total cover: <u>2</u>																			
Remarks: (If observed, list morphological adaptations below.)																				

SOIL

Sampling Point: WD/WG-Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 3/2	100					Loamy/Clayey	
10-18	10YR 4/3	100					Loamy/Clayey	
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.)								Indicators for Problematic Hydric Soils³:
☐ Histosol (A1)			☐ Thin Dark Surface (S9) (LRR S, T, U)			☐ 1 cm Muck (A9) (LRR O)		
☐ Histic Epipedon (A2)			☐ Barrier Islands 1 cm Muck (S12)			☐ 2 cm Muck (A10) (LRR S)		
☐ Black Histic (A3)			☐ (MLRA 153B, 153D)			☐ Coast Prairie Redox (A16) (MLRA 149A)		
☐ Hydrogen Sulfide (A4)			☐ Loamy Mucky Mineral (F1) (LRR O)			☐ Reduced Vertic (F18)		
☐ Stratified Layers (A5)			☐ Loamy Gleyed Matrix (F2)			☐ (outside MLRA 150A, 150B)		
☐ Organic Bodies (A6) (LRR P, T, U)			☐ Depleted Matrix (F3)			☐ Piedmont Floodplain Soils (F19) (LRR P, T)		
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)			☐ Redox Dark Surface (F6)			☐ Anomalous Bright Floodplain Soils (F20)		
☐ Muck Presence (A8) (LRR U)			☐ Depleted Dark Surface (F7)			☐ (MLRA 153B)		
☐ 1 cm Muck (A9) (LRR P, T)			☐ Redox Depressions (F8)			☐ Red Parent Material (F21)		
☐ Depleted Below Dark Surface (A11)			☐ Marl (F10) (LRR U)			☐ Very Shallow Dark Surface (F22)		
☐ Thick Dark Surface (A12)			☐ Depleted Ochric (F11) (MLRA 151)			☐ (outside MLRA 138, 152A in FL, 154)		
☐ Coast Prairie Redox (A16) (MLRA 150A)			☐ Iron-Manganese Masses (F12) (LRR O, P, T)			☐ Other (Explain in Remarks)		
☐ Iron Monosulfide (A18)			☐ Umbric Surface (F13) (LRR P, T, U)					
☐ Sandy Mucky Mineral (S1) (LRR O, S)			☐ Delta Ochric (F17) (MLRA 151)					
☐ Sandy Gleyed Matrix (S4)			☐ Reduced Vertic (F18) (MLRA 150A, 150B)					
☐ Sandy Redox (S5)			☐ Piedmont Floodplain Soils (F19) (MLRA 149A)					
☐ Stripped Matrix (S6)			☐ Anomalous Bright Floodplain Soils (F20)					
☐ Dark Surface (S7) (LRR P, S, T, U)			☐ (MLRA 149A, 153C, 153D)					
☐ Polyvalue Below Surface (S8)			☐ Very Shallow Dark Surface (F22)					
☐ (LRR S, T, U)			☐ (MLRA 138, 152A in FL, 154)					
Restrictive Layer (if observed):								
Type: _____								
Depth (inches): _____								
								Hydric Soil Present? Yes ☐ No ☒
Remarks:								

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/08/2026

Applicant/Owner: NCDOT State: NC Sampling Point: WI/WJ-Up

Investigator(s): Trevor Hall, PWS Section, Township, Range: N/A

Landform (hillside, terrace, etc.): berm Local relief (concave, convex, none): convex Slope (%): 5

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.877181 Long: -75.937424 Datum: NAD 83

Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: N/A

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
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Remarks:
 Upland berm along Briar Hall (gravel road) separating WI and WJ. The APT readout shows drier than usual conditions during the duration of the field investigations.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
☐ 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 on Living Roots (C3) ☐ Presence of Reduced Iron (C4) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Thin Muck Surface (C7) ☐ Other (Explain in Remarks)	☐ 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 <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

 Sampling Point: WI/WJ-Up

Tree Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u><i>Pinus taeda</i></u>	<u>60</u>	<u>Yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>71.4%</u> (A/B)																
2. <u><i>Quercus nigra</i></u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
<u>90</u> =Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>140</u></td> <td>x 3 = <u>420</u></td> </tr> <tr> <td>FACU species <u>25</u></td> <td>x 4 = <u>100</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>165</u> (A)</td> <td><u>520</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>3.15</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>140</u>	x 3 = <u>420</u>	FACU species <u>25</u>	x 4 = <u>100</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>165</u> (A)	<u>520</u> (B)	Prevalence Index = B/A = <u>3.15</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>140</u>	x 3 = <u>420</u>																			
FACU species <u>25</u>	x 4 = <u>100</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>165</u> (A)	<u>520</u> (B)																			
Prevalence Index = B/A = <u>3.15</u>																				
50% of total cover: <u>45</u> 20% of total cover: <u>18</u>																				
Sapling/Shrub Stratum (Plot size: <u>10 m</u>)																				
1. <u><i>Pinus taeda</i></u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																
2. <u><i>Juniperus virginiana</i></u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u><i>Quercus nigra</i></u>	<u>10</u>	<u>No</u>	<u>FAC</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
<u>55</u> =Total Cover																				
50% of total cover: <u>28</u> 20% of total cover: <u>11</u>																				
Herb Stratum (Plot size: <u>5 m</u>)																				
1. <u><i>Asplenium platyneuron</i></u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	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.																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
<u>10</u> =Total Cover																				
50% of total cover: <u>5</u> 20% of total cover: <u>2</u>																				
Woody Vine Stratum (Plot size: <u>10 m</u>)																				
1. <u><i>Toxicodendron radicans</i></u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	Hydrophytic Vegetation Present? Yes <u>X</u> No _____																
2. <u><i>Campsis radicans</i></u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>10</u> =Total Cover																				
50% of total cover: <u>5</u> 20% of total cover: <u>2</u>																				
Remarks: (If observed, list morphological adaptations below.)																				

SOIL

Sampling Point: WI/WJ-Up**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 2/2	100					Loamy/Clayey	
3-18	10YR 5/3	100					Sandy	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)
☐ Black Histic (A3)	☐ (MLRA 153B, 153D)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)
☐ Organic Bodies (A6) (LRR P, T, U)	☐ Depleted Matrix (F3)
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)
☐ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)
☐ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)
☐ Iron Monosulfide (A18)	☐ Umbric Surface (F13) (LRR P, T, U)
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Dark Surface (S7) (LRR P, S, T, U)	☐ (MLRA 149A, 153C, 153D)
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)
☐ (LRR S, T, U)	☐ (MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) (LRR O)
☐ 2 cm Muck (A10) (LRR S)
☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Reduced Vertic (F18)
☐ (outside MLRA 150A, 150B)
☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☐ Anomalous Bright Floodplain Soils (F20)
☐ (MLRA 153B)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (F22)
☐ (outside MLRA 138, 152A in FL, 154)
☐ Other (Explain in Remarks)

³Indicators 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 X

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/07/2026
Applicant/Owner: NCDOT State: NC Sampling Point: WK-Up
Investigator(s): Trevor Hall, PWS Section, Township, Range: N/A
Landform (hillside, terrace, etc.): hillslope Local relief (concave, convex, none): Convex Slope (%): 4
Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.880423 Long: -75.945899 Datum: NAD 83
Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	

Remarks:
The APT readout shows drier than usual conditions during the duration of the field investigations.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u> </u> Aquatic Fauna (B13) <u> </u> High Water Table (A2) <u> </u> Marl Deposits (B15) (LRR U) <u> </u> Saturation (A3) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Water Marks (B1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Sediment Deposits (B2) <u> </u> Presence of Reduced Iron (C4) <u> </u> Drift Deposits (B3) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Algal Mat or Crust (B4) <u> </u> Thin Muck Surface (C7) <u> </u> Iron Deposits (B5) <u> </u> Other (Explain in Remarks) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> </u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

 Sampling Point: WK-Up

Tree Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Acer rubrum</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>8</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. <u>Liquidambar styraciflua</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u>Quercus nigra</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
80 = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>160</u></td> <td>x 3 = <u>480</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>160</u> (A)</td> <td><u>480</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>3.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>160</u>	x 3 = <u>480</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>160</u> (A)	<u>480</u> (B)	Prevalence Index = B/A = <u>3.00</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>160</u>	x 3 = <u>480</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>160</u> (A)	<u>480</u> (B)																			
Prevalence Index = B/A = <u>3.00</u>																				
50% of total cover: <u>40</u> 20% of total cover: <u>16</u>																				
Sapling/Shrub Stratum (Plot size: <u>10 m</u>)																				
1. <u>Liquidambar styraciflua</u>	<u>40</u>	<u>Yes</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																
2. <u>Morella cerifera</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
60 = Total Cover																				
50% of total cover: <u>30</u> 20% of total cover: <u>12</u>																				
Herb Stratum (Plot size: <u>5 m</u>)																				
1. <u>Toxicodendron radicans</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	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.																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
10 = Total Cover																				
50% of total cover: <u>5</u> 20% of total cover: <u>2</u>																				
Woody Vine Stratum (Plot size: <u>10 m</u>)																				
1. <u>Toxicodendron radicans</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	Hydrophytic Vegetation Present? Yes <u>X</u> No _____																
2. <u>Campsis radicans</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
10 = Total Cover																				
50% of total cover: <u>5</u> 20% of total cover: <u>2</u>																				
Remarks: (If observed, list morphological adaptations below.)																				

SOIL

Sampling Point: WK-Up**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10YR 5/3	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)
☐ Black Histic (A3)	☐ (MLRA 153B, 153D)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)
☐ Organic Bodies (A6) (LRR P, T, U)	☐ Depleted Matrix (F3)
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)
☐ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)
☐ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)
☐ Iron Monosulfide (A18)	☐ Umbric Surface (F13) (LRR P, T, U)
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Dark Surface (S7) (LRR P, S, T, U)	☐ (MLRA 149A, 153C, 153D)
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)
☐ (LRR S, T, U)	☐ (MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) (LRR O)
☐ 2 cm Muck (A10) (LRR S)
☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Reduced Vertic (F18)
☐ (outside MLRA 150A, 150B)
☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☐ Anomalous Bright Floodplain Soils (F20)
☐ (MLRA 153B)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (F22)
☐ (outside MLRA 138, 152A in FL, 154)
☐ Other (Explain in Remarks)

³Indicators 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 X

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/08/2026
Applicant/Owner: NCDOT State: NC Sampling Point: See Remarks
Investigator(s): David Cooper Section, Township, Range: N/A
Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.874894 Long: -75.937717 Datum: NAD 83
Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	

Remarks:
Upland area in maintained wildlife refuge field. This upland form represents the area in maintained wildlife refuge fields in the vicinity of WL/WM/WN/WO/WQ/WR. The APT readout shows drier than usual conditions during the duration of the field investigations.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u> </u> Aquatic Fauna (B13) <u> </u> High Water Table (A2) <u> </u> Marl Deposits (B15) (LRR U) <u> </u> Saturation (A3) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Water Marks (B1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Sediment Deposits (B2) <u> </u> Presence of Reduced Iron (C4) <u> </u> Drift Deposits (B3) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Algal Mat or Crust (B4) <u> </u> Thin Muck Surface (C7) <u> </u> Iron Deposits (B5) <u> </u> Other (Explain in Remarks) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> </u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

 Sampling Point: See Remarks

Tree Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Absent</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
=Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>30</u></td> <td>x 4 = <u>120</u></td> </tr> <tr> <td>UPL species <u>50</u></td> <td>x 5 = <u>250</u></td> </tr> <tr> <td>Column Totals: <u>90</u> (A)</td> <td><u>390</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>4.33</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>30</u>	x 4 = <u>120</u>	UPL species <u>50</u>	x 5 = <u>250</u>	Column Totals: <u>90</u> (A)	<u>390</u> (B)	Prevalence Index = B/A = <u>4.33</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>10</u>	x 2 = <u>20</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
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UPL species <u>50</u>	x 5 = <u>250</u>																			
Column Totals: <u>90</u> (A)	<u>390</u> (B)																			
Prevalence Index = B/A = <u>4.33</u>																				
50% of total cover: _____ 20% of total cover: _____																				
Sapling/Shrub Stratum (Plot size: <u>10 m</u>)																				
1. <u>Absent</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
=Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Herb Stratum (Plot size: <u>5 m</u>)																				
1. <u>Cirsium vulgare</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Zea mays</u>	<u>30</u>	<u>Yes</u>	<u>UPL</u>																	
3. <u>Ranunculus acris</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																	
4. <u>Triticum aestivum</u>	<u>20</u>	<u>Yes</u>	<u>UPL</u>																	
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
=Total Cover																				
50% of total cover: <u>45</u> 20% of total cover: <u>18</u>																				
Woody Vine Stratum (Plot size: <u>10 m</u>)																				
1. <u>Absent</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
=Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Remarks: (If observed, list morphological adaptations below.)																				

Hydrophytic Vegetation Present? Yes No X

SOIL

Sampling Point: See Remarks**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4/3	100					Loamy/Clayey	
6-18	10YR 4/2	95	7.5YR 5/8	5	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)
☐ Black Histic (A3)	☐ (MLRA 153B, 153D)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)
☐ Organic Bodies (A6) (LRR P, T, U)	☐ Depleted Matrix (F3)
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)
☐ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)
☐ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)
☐ Iron Monosulfide (A18)	☐ Umbric Surface (F13) (LRR P, T, U)
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Dark Surface (S7) (LRR P, S, T, U)	☐ (MLRA 149A, 153C, 153D)
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)
☐ (LRR S, T, U)	☐ (MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) (LRR O)
☐ 2 cm Muck (A10) (LRR S)
☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Reduced Vertic (F18)
☐ (outside MLRA 150A, 150B)
☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☐ Anomalous Bright Floodplain Soils (F20)
☐ (MLRA 153B)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (F22)
☐ (outside MLRA 138, 152A in FL, 154)
☐ Other (Explain in Remarks)

³Indicators 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 X

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/08/2026
Applicant/Owner: NCDOT State: NC Sampling Point: WP-Up
Investigator(s): David Cooper Section, Township, Range: N/A
Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.871285 Long: -75.931199 Datum: NAD 83
Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	

Remarks:
Upland area in maintained wildlife refuge field. The APT readout shows drier than usual conditions during the duration of the field investigations.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u> </u> Aquatic Fauna (B13) <u> </u> High Water Table (A2) <u> </u> Marl Deposits (B15) (LRR U) <u> </u> Saturation (A3) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Water Marks (B1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Sediment Deposits (B2) <u> </u> Presence of Reduced Iron (C4) <u> </u> Drift Deposits (B3) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Algal Mat or Crust (B4) <u> </u> Thin Muck Surface (C7) <u> </u> Iron Deposits (B5) <u> </u> Other (Explain in Remarks) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> </u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)
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Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

 Sampling Point: WP-Up

Tree Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Absent</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
=Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>30</u></td> <td>x 4 = <u>120</u></td> </tr> <tr> <td>UPL species <u>50</u></td> <td>x 5 = <u>250</u></td> </tr> <tr> <td>Column Totals: <u>90</u> (A)</td> <td><u>390</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>4.33</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>30</u>	x 4 = <u>120</u>	UPL species <u>50</u>	x 5 = <u>250</u>	Column Totals: <u>90</u> (A)	<u>390</u> (B)	Prevalence Index = B/A = <u>4.33</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>10</u>	x 2 = <u>20</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>30</u>	x 4 = <u>120</u>																			
UPL species <u>50</u>	x 5 = <u>250</u>																			
Column Totals: <u>90</u> (A)	<u>390</u> (B)																			
Prevalence Index = B/A = <u>4.33</u>																				
50% of total cover: _____ 20% of total cover: _____																				
Sapling/Shrub Stratum (Plot size: <u>10 m</u>)																				
1. <u>Absent</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
=Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Herb Stratum (Plot size: <u>5 m</u>)																				
1. <u>Cirsium vulgare</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Zea mays</u>	<u>30</u>	<u>Yes</u>	<u>UPL</u>																	
3. <u>Ranunculus acris</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																	
4. <u>Triticum aestivum</u>	<u>20</u>	<u>Yes</u>	<u>UPL</u>																	
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
=Total Cover																				
50% of total cover: <u>45</u> 20% of total cover: <u>18</u>																				
Woody Vine Stratum (Plot size: <u>10 m</u>)																				
1. <u>Absent</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
=Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Remarks: (If observed, list morphological adaptations below.)																				

Hydrophytic Vegetation Present? Yes No X

SOIL

Sampling Point: WP-Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4/3	100					Loamy/Clayey	
6-18	10YR 4/2	95	7.5YR 5/8	5	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)	☐ 1 cm Muck (A9) (LRR O)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)	☐ 2 cm Muck (A10) (LRR S)
☐ Black Histic (A3)	☐ (MLRA 153B, 153D)	☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)	☐ Reduced Vertic (F18)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)	☐ (outside MLRA 150A, 150B)
☐ Organic Bodies (A6) (LRR P, T, U)	☐ Depleted Matrix (F3)	☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)	☐ (MLRA 153B)
☐ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)	☐ Red Parent Material (F21)
☐ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)	☐ (outside MLRA 138, 152A in FL, 154)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)	☐ Other (Explain in Remarks)
☐ Iron Monosulfide (A18)	☐ Umbric Surface (F13) (LRR P, T, U)	
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)	
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)	
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)	
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)	
☐ Dark Surface (S7) (LRR P, S, T, U)	☐ (MLRA 149A, 153C, 153D)	
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)	
☐ (LRR S, T, U)	☐ (MLRA 138, 152A in FL, 154)	

³Indicators 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 <u>X</u>
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Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/15/2026
Applicant/Owner: NCDOT State: NC Sampling Point: WSWTWU- Up
Investigator(s): Trevor Hall, PWS Section, Township, Range: N/A
Landform (hillside, terrace, etc.): berm Local relief (concave, convex, none): convex Slope (%): 1
Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.868610 Long: -75.909733 Datum: NAD 83
Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	

Remarks:
Upland berm between jurisdictional ditch and wetland. The APT readout shows drier than usual conditions during the duration of the field investigations.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u> </u> Aquatic Fauna (B13) <u> </u> High Water Table (A2) <u> </u> Marl Deposits (B15) (LRR U) <u> </u> Saturation (A3) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Water Marks (B1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Sediment Deposits (B2) <u> </u> Presence of Reduced Iron (C4) <u> </u> Drift Deposits (B3) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Algal Mat or Crust (B4) <u> </u> Thin Muck Surface (C7) <u> </u> Iron Deposits (B5) <u> </u> Other (Explain in Remarks) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> </u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)
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Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

 Sampling Point: WS/WT/WU- Up

Tree Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u><i>Pinus taeda</i></u>	<u>40</u>	<u>Yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>8</u> (A) Total Number of Dominant Species Across All Strata: <u>10</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80.0%</u> (A/B)																
2. <u><i>Liquidambar styraciflua</i></u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u><i>Quercus rubra</i></u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
90 = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: left;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>150</u></td> <td>x 3 = <u>450</u></td> </tr> <tr> <td>FACU species <u>25</u></td> <td>x 4 = <u>100</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>180</u> (A)</td> <td><u>575</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.19</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>150</u>	x 3 = <u>450</u>	FACU species <u>25</u>	x 4 = <u>100</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>180</u> (A)	<u>575</u> (B)	Prevalence Index = B/A = <u>3.19</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>150</u>	x 3 = <u>450</u>																			
FACU species <u>25</u>	x 4 = <u>100</u>																			
UPL species <u>5</u>	x 5 = <u>25</u>																			
Column Totals: <u>180</u> (A)	<u>575</u> (B)																			
Prevalence Index = B/A = <u>3.19</u>																				
50% of total cover: <u>45</u> 20% of total cover: <u>18</u>																				
Sapling/Shrub Stratum (Plot size: <u>10 m</u>)																				
1. <u><i>Liquidambar styraciflua</i></u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																
2. <u><i>Morella cerifera</i></u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u><i>Quercus nigra</i></u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>																	
4. <u><i>Acer rubrum</i></u>	<u>10</u>	<u>No</u>	<u>FAC</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
65 = Total Cover																				
50% of total cover: <u>33</u> 20% of total cover: <u>13</u>																				
Herb Stratum (Plot size: <u>5 m</u>)																				
1. <u><i>Goodyera pubescens</i></u>	<u>5</u>	<u>Yes</u>	<u>UPL</u>	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.																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
5 = Total Cover																				
50% of total cover: <u>3</u> 20% of total cover: <u>1</u>																				
Woody Vine Stratum (Plot size: <u>10 m</u>)																				
1. <u><i>Toxicodendron radicans</i></u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	Hydrophytic Vegetation Present? Yes <u>X</u> No _____																
2. <u><i>Campsis radicans</i></u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u><i>Vitis rotundifolia</i></u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
20 = Total Cover																				
50% of total cover: <u>10</u> 20% of total cover: <u>4</u>																				
Remarks: (If observed, list morphological adaptations below.)																				

SOIL

Sampling Point: WS/WT/WU- Up**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 3/2	100					Loamy/Clayey	
2-10	10YR 4/3	100					Loamy/Clayey	
10-15	10YR 5/3	100					Loamy/Clayey	
15-18	10YR 5/3	100					Loamy/Clayey	Hard clay

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)
☐ Black Histic (A3)	☐ (MLRA 153B, 153D)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)
☐ Organic Bodies (A6) (LRR P, T, U)	☐ Depleted Matrix (F3)
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)
☐ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)
☐ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)
☐ Iron Monosulfide (A18)	☐ Umbric Surface (F13) (LRR P, T, U)
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Dark Surface (S7) (LRR P, S, T, U)	☐ (MLRA 149A, 153C, 153D)
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)
☐ (LRR S, T, U)	☐ (MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) (LRR O)
☐ 2 cm Muck (A10) (LRR S)
☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Reduced Vertic (F18)
☐ (outside MLRA 150A, 150B)
☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☐ Anomalous Bright Floodplain Soils (F20)
☐ (MLRA 153B)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (F22)
☐ (outside MLRA 138, 152A in FL, 154)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**
 Type: Clay
 Depth (inches): 15

 Hydric Soil Present? Yes No X

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/16/2026
Applicant/Owner: NCDOT State: NC Sampling Point: WV-Up
Investigator(s): Trevor Hall, PWS Section, Township, Range: N/A
Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%): 1
Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.870982 Long: -75.892665 Datum: NAD 83
Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u> X </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u> X </u>
Hydric Soil Present? Yes <u> </u> No <u> X </u>	
Wetland Hydrology Present? Yes <u> </u> No <u> X </u>	

Remarks:
Edge of dirt driveway with fill material added. The APT readout shows drier than usual conditions during the duration of the field investigations.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u> </u> Aquatic Fauna (B13) <u> </u> High Water Table (A2) <u> </u> Marl Deposits (B15) (LRR U) <u> </u> Saturation (A3) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Water Marks (B1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Sediment Deposits (B2) <u> </u> Presence of Reduced Iron (C4) <u> </u> Drift Deposits (B3) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Algal Mat or Crust (B4) <u> </u> Thin Muck Surface (C7) <u> </u> Iron Deposits (B5) <u> </u> Other (Explain in Remarks) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> X </u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u> X </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

 Sampling Point: WV-Up

Tree Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u><i>Pinus taeda</i></u>	40	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>9</u> (A) Total Number of Dominant Species Across All Strata: <u>11</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>81.8%</u> (A/B)																
2. <u><i>Liquidambar styraciflua</i></u>	25	Yes	FAC																	
3. <u><i>Quercus michauxii</i></u>	20	Yes	FACW																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
85 = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>75</u></td> <td>x 2 = <u>150</u></td> </tr> <tr> <td>FAC species <u>105</u></td> <td>x 3 = <u>315</u></td> </tr> <tr> <td>FACU species <u>25</u></td> <td>x 4 = <u>100</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>205</u> (A)</td> <td><u>565</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.76</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>75</u>	x 2 = <u>150</u>	FAC species <u>105</u>	x 3 = <u>315</u>	FACU species <u>25</u>	x 4 = <u>100</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>205</u> (A)	<u>565</u> (B)	Prevalence Index = B/A = <u>2.76</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>75</u>	x 2 = <u>150</u>																			
FAC species <u>105</u>	x 3 = <u>315</u>																			
FACU species <u>25</u>	x 4 = <u>100</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>205</u> (A)	<u>565</u> (B)																			
Prevalence Index = B/A = <u>2.76</u>																				
50% of total cover: <u>43</u> 20% of total cover: <u>17</u>																				
Sapling/Shrub Stratum (Plot size: <u>10 m</u>)																				
1. <u><i>Quercus michauxii</i></u>	20	Yes	FACW	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																
2. <u><i>Arundinaria tecta</i></u>	20	Yes	FACW																	
3. <u><i>Quercus laurifolia</i></u>	15	Yes	FACW																	
4. <u><i>Juniperus virginiana</i></u>	15	Yes	FACU																	
5. <u><i>Magnolia grandiflora</i></u>	10	No	FAC																	
6. _____																				
7. _____																				
8. _____																				
80 = Total Cover																				
50% of total cover: <u>40</u> 20% of total cover: <u>16</u>																				
Herb Stratum (Plot size: <u>5 m</u>)																				
1. <u><i>Dichanthelium laxiflorum</i></u>	10	Yes	FAC	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.																
2. <u><i>Cirsium vulgare</i></u>	10	Yes	FACU																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
20 = Total Cover																				
50% of total cover: <u>10</u> 20% of total cover: <u>4</u>																				
Woody Vine Stratum (Plot size: <u>10 m</u>)																				
1. <u><i>Toxicodendron radicans</i></u>	10	Yes	FAC	Hydrophytic Vegetation Present? Yes <u>X</u> No _____																
2. <u><i>Gelsemium sempervirens</i></u>	10	Yes	FAC																	
3. _____																				
4. _____																				
5. _____																				
20 = Total Cover																				
50% of total cover: <u>10</u> 20% of total cover: <u>4</u>																				
Remarks: (If observed, list morphological adaptations below.)																				

SOIL

Sampling Point: WV-Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4/2	80	10YR 8/1	20	D	M	Loamy/Clayey	Unmasked Sand Grain
12-18	10YR 4/3	100					Loamy/Clayey	
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) ☐ Thin Dark Surface (S9) (LRR S, T, U) ☐ Histic Epipedon (A2) ☐ Barrier Islands 1 cm Muck (S12) ☐ Black Histic (A3) (MLRA 153B, 153D) ☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1) (LRR O) ☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2) ☐ Organic Bodies (A6) (LRR P, T, U) ☐ Depleted Matrix (F3) ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U) ☐ Redox Dark Surface (F6) ☐ Muck Presence (A8) (LRR U) ☐ Depleted Dark Surface (F7) ☐ 1 cm Muck (A9) (LRR P, T) ☐ Redox Depressions (F8) ☐ Depleted Below Dark Surface (A11) ☐ Marl (F10) (LRR U) ☐ Thick Dark Surface (A12) ☐ Depleted Ochric (F11) (MLRA 151) ☐ Coast Prairie Redox (A16) (MLRA 150A) ☐ Iron-Manganese Masses (F12) (LRR O, P, T) ☐ Iron Monosulfide (A18) ☐ Umbric Surface (F13) (LRR P, T, U) ☐ Sandy Mucky Mineral (S1) (LRR O, S) ☐ Delta Ochric (F17) (MLRA 151) ☐ Sandy Gleyed Matrix (S4) ☐ Reduced Vertic (F18) (MLRA 150A, 150B) ☐ Sandy Redox (S5) ☐ Piedmont Floodplain Soils (F19) (MLRA 149A) ☐ Stripped Matrix (S6) ☐ Anomalous Bright Floodplain Soils (F20) ☐ Dark Surface (S7) (LRR P, S, T, U) (MLRA 149A, 153C, 153D) ☐ Polyvalue Below Surface (S8) ☐ Very Shallow Dark Surface (F22) (LRR S, T, U) (MLRA 138, 152A in FL, 154) Indicators for Problematic Hydric Soils³: ☐ 1 cm Muck (A9) (LRR O) ☐ 2 cm Muck (A10) (LRR S) ☐ Coast Prairie Redox (A16) (MLRA 149A) ☐ Reduced Vertic (F18) (outside MLRA 150A, 150B) ☐ Piedmont Floodplain Soils (F19) (LRR P, T) ☐ Anomalous Bright Floodplain Soils (F20) (MLRA 153B) ☐ Red Parent Material (F21) ☐ Very Shallow Dark Surface (F22) (outside MLRA 138, 152A in FL, 154) ☐ Other (Explain in Remarks)								
Restrictive Layer (if observed): Type: _____ Depth (inches): _____							Hydric Soil Present? Yes _____ No <u>X</u>	
Remarks:								

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/16/2026
Applicant/Owner: NCDOT State: NC Sampling Point: WW/WY-Up
Investigator(s): Trevor Hall, PWS Section, Township, Range: N/A
Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%): 1
Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.866967 Long: -75.916813 Datum: NAD 83
Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	

Remarks:
The APT readout shows drier than usual conditions during the duration of the field investigations.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u> </u> Aquatic Fauna (B13) <u> </u> High Water Table (A2) <u> </u> Marl Deposits (B15) (LRR U) <u> </u> Saturation (A3) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Water Marks (B1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Sediment Deposits (B2) <u> </u> Presence of Reduced Iron (C4) <u> </u> Drift Deposits (B3) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Algal Mat or Crust (B4) <u> </u> Thin Muck Surface (C7) <u> </u> Iron Deposits (B5) <u> </u> Other (Explain in Remarks) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> </u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

 Sampling Point: WW/WY-Up

Tree Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u><i>Pinus taeda</i></u>	50	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>87.5%</u> (A/B)																
2. <u><i>Liquidambar styraciflua</i></u>	30	Yes	FAC																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
80 = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: right;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td style="text-align: right;">x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>40</u></td> <td style="text-align: right;">x 2 = <u>80</u></td> </tr> <tr> <td>FAC species <u>125</u></td> <td style="text-align: right;">x 3 = <u>375</u></td> </tr> <tr> <td>FACU species <u>25</u></td> <td style="text-align: right;">x 4 = <u>100</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td style="text-align: right;">x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>190</u> (A)</td> <td style="text-align: right;"><u>555</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: right;">Prevalence Index = B/A = <u>2.92</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>40</u>	x 2 = <u>80</u>	FAC species <u>125</u>	x 3 = <u>375</u>	FACU species <u>25</u>	x 4 = <u>100</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>190</u> (A)	<u>555</u> (B)	Prevalence Index = B/A = <u>2.92</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>40</u>	x 2 = <u>80</u>																			
FAC species <u>125</u>	x 3 = <u>375</u>																			
FACU species <u>25</u>	x 4 = <u>100</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>190</u> (A)	<u>555</u> (B)																			
Prevalence Index = B/A = <u>2.92</u>																				
50% of total cover: <u>40</u> 20% of total cover: <u>16</u>																				
Sapling/Shrub Stratum (Plot size: <u>10 m</u>)																				
1. <u><i>Arundinaria tecta</i></u>	40	Yes	FACW	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																
2. <u><i>Magnolia grandiflora</i></u>	20	Yes	FAC																	
3. <u><i>Quercus nigra</i></u>	10	No	FAC																	
4. <u><i>Juniperus virginiana</i></u>	10	No	FACU																	
5. _____																				
6. _____																				
7. _____																				
8. _____																				
80 = Total Cover																				
50% of total cover: <u>40</u> 20% of total cover: <u>16</u>																				
Herb Stratum (Plot size: <u>5 m</u>)																				
1. <u><i>Parthenocissus quinquefolia</i></u>	15	Yes	FACU	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.																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
15 = Total Cover																				
50% of total cover: <u>8</u> 20% of total cover: <u>3</u>																				
Woody Vine Stratum (Plot size: <u>10 m</u>)																				
1. <u><i>Toxicodendron radicans</i></u>	5	Yes	FAC	Hydrophytic Vegetation Present? Yes <u>X</u> No _____																
2. <u><i>Campsis radicans</i></u>	5	Yes	FAC																	
3. <u><i>Vitis rotundifolia</i></u>	5	Yes	FAC																	
4. _____																				
5. _____																				
15 = Total Cover																				
50% of total cover: <u>8</u> 20% of total cover: <u>3</u>																				
Remarks: (If observed, list morphological adaptations below.)																				

SOIL

Sampling Point: WW/WY-Up**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 3/3	100					Loamy/Clayey	Duff Layer
2-10	10YR 4/3	100					Loamy/Clayey	
10-18	10YR 5/2	90	10YR 5/4	10	C	M	Loamy/Clayey	Distinct redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)	☐ Thin Dark Surface (S9) (LRR S, T, U)
☐ Histic Epipedon (A2)	☐ Barrier Islands 1 cm Muck (S12)
☐ Black Histic (A3)	☐ (MLRA 153B, 153D)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR O)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)
☐ Organic Bodies (A6) (LRR P, T, U)	☐ Depleted Matrix (F3)
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)	☐ Redox Dark Surface (F6)
☐ Muck Presence (A8) (LRR U)	☐ Depleted Dark Surface (F7)
☐ 1 cm Muck (A9) (LRR P, T)	☐ Redox Depressions (F8)
☐ Depleted Below Dark Surface (A11)	☐ Marl (F10) (LRR U)
☐ Thick Dark Surface (A12)	☐ Depleted Ochric (F11) (MLRA 151)
☐ Coast Prairie Redox (A16) (MLRA 150A)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)
☐ Iron Monosulfide (A18)	☐ Umbric Surface (F13) (LRR P, T, U)
☐ Sandy Mucky Mineral (S1) (LRR O, S)	☐ Delta Ochric (F17) (MLRA 151)
☐ Sandy Gleyed Matrix (S4)	☐ Reduced Vertic (F18) (MLRA 150A, 150B)
☐ Sandy Redox (S5)	☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
☐ Stripped Matrix (S6)	☐ Anomalous Bright Floodplain Soils (F20)
☐ Dark Surface (S7) (LRR P, S, T, U)	☐ (MLRA 149A, 153C, 153D)
☐ Polyvalue Below Surface (S8)	☐ Very Shallow Dark Surface (F22)
☐ (LRR S, T, U)	☐ (MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) (LRR O)
☐ 2 cm Muck (A10) (LRR S)
☐ Coast Prairie Redox (A16) (MLRA 149A)
☐ Reduced Vertic (F18)
☐ (outside MLRA 150A, 150B)
☐ Piedmont Floodplain Soils (F19) (LRR P, T)
☐ Anomalous Bright Floodplain Soils (F20)
☐ (MLRA 153B)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (F22)
☐ (outside MLRA 138, 152A in FL, 154)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**
 Type: Clay
 Depth (inches): 15
Hydric Soil Present? Yes No X

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 9/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: NCDOT STIP: HO-0027 City/County: East Lake/ Dare Sampling Date: 04/16/2026
Applicant/Owner: NCDOT State: NC Sampling Point: WX-Up
Investigator(s): Trevor Hall, PWS Section, Township, Range: N/A
Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%): 1
Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 35.871180 Long: -75.885595 Datum: NAD 83
Soil Map Unit Name: Hyde loam, 0 to 2 percent slopes, rarely flooded (HyA) NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u> X </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u> X </u>
Hydric Soil Present? Yes <u> </u> No <u> X </u>	
Wetland Hydrology Present? Yes <u> </u> No <u> X </u>	

Remarks:
The APT readout shows drier than usual conditions during the duration of the field investigations.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u> </u> Aquatic Fauna (B13) <u> </u> High Water Table (A2) <u> </u> Marl Deposits (B15) (LRR U) <u> </u> Saturation (A3) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Water Marks (B1) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Sediment Deposits (B2) <u> </u> Presence of Reduced Iron (C4) <u> </u> Drift Deposits (B3) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Algal Mat or Crust (B4) <u> </u> Thin Muck Surface (C7) <u> </u> Iron Deposits (B5) <u> </u> Other (Explain in Remarks) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Sparsely Vegetated Concave Surface (B8) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> </u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> </u> FAC-Neutral Test (D5) <u> </u> Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> </u> No <u> X </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

 Sampling Point: WX-Up

Tree Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u><i>Pinus taeda</i></u>	<u>35</u>	<u>Yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>9</u> (A) Total Number of Dominant Species Across All Strata: <u>11</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>81.8%</u> (A/B)																
2. <u><i>Liquidambar styraciflua</i></u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u><i>Carpinus caroliniana</i></u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
85 = Total Cover																				
50% of total cover: <u>43</u>		20% of total cover: <u>17</u>																		
Sapling/Shrub Stratum (Plot size: <u>10 m</u>)																				
1. <u><i>Arundinaria tecta</i></u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: left;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>30</u></td> <td>x 2 = <u>60</u></td> </tr> <tr> <td>FAC species <u>120</u></td> <td>x 3 = <u>360</u></td> </tr> <tr> <td>FACU species <u>25</u></td> <td>x 4 = <u>100</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>175</u> (A)</td> <td><u>520</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: right;">Prevalence Index = B/A = <u>2.97</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>30</u>	x 2 = <u>60</u>	FAC species <u>120</u>	x 3 = <u>360</u>	FACU species <u>25</u>	x 4 = <u>100</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>175</u> (A)	<u>520</u> (B)	Prevalence Index = B/A = <u>2.97</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>30</u>	x 2 = <u>60</u>																			
FAC species <u>120</u>	x 3 = <u>360</u>																			
FACU species <u>25</u>	x 4 = <u>100</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>175</u> (A)	<u>520</u> (B)																			
Prevalence Index = B/A = <u>2.97</u>																				
2. <u><i>Magnolia grandiflora</i></u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u><i>Quercus nigra</i></u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>																	
4. <u><i>Juniperus virginiana</i></u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
60 = Total Cover																				
50% of total cover: <u>30</u>		20% of total cover: <u>12</u>																		
Herb Stratum (Plot size: <u>5 m</u>)																				
1. <u><i>Parthenocissus quinquefolia</i></u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
15 = Total Cover																				
50% of total cover: <u>8</u>		20% of total cover: <u>3</u>																		
Woody Vine Stratum (Plot size: <u>10 m</u>)																				
1. <u><i>Toxicodendron radicans</i></u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	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.																
2. <u><i>Campsis radicans</i></u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u><i>Vitis rotundifolia</i></u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
15 = Total Cover																				
50% of total cover: <u>8</u>		20% of total cover: <u>3</u>																		
Hydrophytic Vegetation Present? Yes <u>X</u> No _____																				
Remarks: (If observed, list morphological adaptations below.) 																				

SOIL

Sampling Point: WX-Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10YR 3/4	100					Loamy/Clayey	
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.)						Indicators for Problematic Hydric Soils³:		
☐ Histosol (A1)			☐ Thin Dark Surface (S9) (LRR S, T, U)			☐ 1 cm Muck (A9) (LRR O)		
☐ Histic Epipedon (A2)			☐ Barrier Islands 1 cm Muck (S12)			☐ 2 cm Muck (A10) (LRR S)		
☐ Black Histic (A3)			☐ (MLRA 153B, 153D)			☐ Coast Prairie Redox (A16) (MLRA 149A)		
☐ Hydrogen Sulfide (A4)			☐ Loamy Mucky Mineral (F1) (LRR O)			☐ Reduced Vertic (F18)		
☐ Stratified Layers (A5)			☐ Loamy Gleyed Matrix (F2)			☐ (outside MLRA 150A, 150B)		
☐ Organic Bodies (A6) (LRR P, T, U)			☐ Depleted Matrix (F3)			☐ Piedmont Floodplain Soils (F19) (LRR P, T)		
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)			☐ Redox Dark Surface (F6)			☐ Anomalous Bright Floodplain Soils (F20)		
☐ Muck Presence (A8) (LRR U)			☐ Depleted Dark Surface (F7)			☐ (MLRA 153B)		
☐ 1 cm Muck (A9) (LRR P, T)			☐ Redox Depressions (F8)			☐ Red Parent Material (F21)		
☐ Depleted Below Dark Surface (A11)			☐ Marl (F10) (LRR U)			☐ Very Shallow Dark Surface (F22)		
☐ Thick Dark Surface (A12)			☐ Depleted Ochric (F11) (MLRA 151)			☐ (outside MLRA 138, 152A in FL, 154)		
☐ Coast Prairie Redox (A16) (MLRA 150A)			☐ Iron-Manganese Masses (F12) (LRR O, P, T)			☐ Other (Explain in Remarks)		
☐ Iron Monosulfide (A18)			☐ Umbric Surface (F13) (LRR P, T, U)					
☐ Sandy Mucky Mineral (S1) (LRR O, S)			☐ Delta Ochric (F17) (MLRA 151)					
☐ Sandy Gleyed Matrix (S4)			☐ Reduced Vertic (F18) (MLRA 150A, 150B)					
☐ Sandy Redox (S5)			☐ Piedmont Floodplain Soils (F19) (MLRA 149A)					
☐ Stripped Matrix (S6)			☐ Anomalous Bright Floodplain Soils (F20)					
☐ Dark Surface (S7) (LRR P, S, T, U)			☐ (MLRA 149A, 153C, 153D)			³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
☐ Polyvalue Below Surface (S8)			☐ Very Shallow Dark Surface (F22)					
☐ (LRR S, T, U)			☐ (MLRA 138, 152A in FL, 154)					
Restrictive Layer (if observed):								
Type: _____						Hydric Soil Present? Yes _____ No <u> X </u>		
Depth (inches): _____								
Remarks:								

NC WAM FIELD ASSESSMENT FORM
Accompanies User Manual Version 5.0

USACE AID #		NCDWR#	
Project Name	NCDOT STIP: HO-0027	Date of Evaluation	04/06/2026
Applicant/Owner Name	NCDOT	Wetland Site Name	WA/WB/WG/WV/WX
Wetland Type	Riverine Swamp Forest	Assessor Name/Organization	Trevor Hall/ Three Oaks Engineers
Level III Ecoregion	Middle Atlantic Coastal Plain	Nearest Named Water Body	South Lake (Alligator River)
River Basin	Pasquotank	USGS 8-Digit Catalogue Unit	03010205
County	Dare	NCDWR Region	Washington
☐ Yes ☒ No	Precipitation within 48 hrs?	Latitude/Longitude (dec-degrees)	35.871550, -75.889825

Evidence of stressors affecting the assessment area (may not be within the assessment area)

Please circle and/or make note on the last page if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past (for instance, within 10 years). Noteworthy stressors include, but are not limited to the following.

- Hydrological modifications (examples: ditches, dams, beaver dams, dikes, berms, ponds, etc.)
- Surface and sub-surface discharges into the wetland (examples: discharges containing obvious pollutants, presence of nearby septic tanks, underground storage tanks (USTs), hog lagoons, etc.)
- Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.)
- Habitat/plant community alteration (examples: mowing, clear-cutting, exotics, etc.)

Is the assessment area intensively managed? ☐ Yes ☒ No

Regulatory Considerations - Were regulatory considerations evaluated? ☒ Yes ☐ No If Yes, check all that apply to the assessment area.

- ☒ Anadromous fish
- ☒ Federally protected species or State endangered or threatened species
- ☐ NCDWR riparian buffer rule in effect
- ☐ Abuts a Primary Nursery Area (PNA)
- ☒ Publicly owned property
- ☐ N.C. Division of Coastal Management Area of Environmental Concern (AEC) (including buffer)
- ☐ Abuts a stream with a NCDWQ classification of SA or supplemental classifications of HQW, ORW, or Trout
- ☒ Designated NCNHP reference community
- ☐ Abuts a 303(d)-listed stream or a tributary to a 303(d)-listed stream

What type of natural stream is associated with the wetland, if any? (check all that apply)

- ☒ Blackwater
- ☐ Brownwater
- ☒ Tidal (if tidal, check one of the following boxes) ☐ Lunar ☒ Wind ☐ Both

Is the assessment area on a coastal island? ☐ Yes ☒ No

Is the assessment area's surface water storage capacity or duration substantially altered by beaver? ☐ Yes ☒ No

Does the assessment area experience overbank flooding during normal rainfall conditions? ☐ Yes ☒ No

1. Ground Surface Condition/Vegetation Condition – assessment area condition metric

Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation structure (VS) in the assessment area. Compare to reference wetland if applicable (see User Manual). If a reference is not applicable, then rate the assessment area based on evidence an effect.

- | | | |
|---------------------------------------|---------------------------------------|--|
| GS | VS | |
| ☒ A | ☒ A | Not severely altered |
| ☐ B | ☐ B | Severely altered over a majority of the assessment area (ground surface alteration examples: vehicle tracks, excessive sedimentation, fire-plow lanes, skidder tracks, bedding, fill, soil compaction, obvious pollutants) (vegetation structure alteration examples: mechanical disturbance, herbicides, salt intrusion [where appropriate], exotic species, grazing, less diversity [if appropriate], hydrologic alteration) |

2. Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric

Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub). Consider both increase and decrease in hydrology. A ditch ≤ 1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if applicable.

- | | | |
|---------------------------------------|---------------------------------------|--|
| Surf | Sub | |
| ☐ A | ☐ A | Water storage capacity and duration are not altered. |
| ☐ B | ☒ B | Water storage capacity or duration are altered, but not substantially (typically, not sufficient to change vegetation). |
| ☒ C | ☐ C | Water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples: draining, flooding, soil compaction, filling, excessive sedimentation, underground utility lines). |

3. Water Storage/Surface Relief – assessment area/wetland type condition metric (skip for all marshes)

Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT).

- | | | |
|---|---------------------------------------|---|
| AA | WT | |
| 3a. ☒ A | ☒ A | Majority of wetland with depressions able to pond water > 1 deep |
| ☐ B | ☐ B | Majority of wetland with depressions able to pond water 6 inches to 1 foot deep |
| ☐ C | ☐ C | Majority of wetland with depressions able to pond water 3 to 6 inches deep |
| ☐ D | ☐ D | Depressions able to pond water < 3 inches deep |
| 3b. ☒ A | | Evidence that maximum depth of inundation is greater than 2 feet |
| ☐ B | | Evidence that maximum depth of inundation is between 1 and 2 feet |
| ☐ C | | Evidence that maximum depth of inundation is less than 1 foot |

4. Soil Texture/Structure – assessment area condition metric (skip for all marshes)

Check a box from each of the three soil property groups below. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top 12 inches. Use most recent National Technical Committee for Hydric Soils guidance for regional indicators.

- 4a. ☐A Sandy soil
☐B Loamy or clayey soils exhibiting redoximorphic features (concentrations, depletions, or rhizospheres)
☒C Loamy or clayey soils not exhibiting redoximorphic features
☐D Loamy or clayey gleyed soil
☐E Histosol or histic epipedon
- 4b. ☐A Soil ribbon < 1 inch
☒B Soil ribbon ≥ 1 inch
- 4c. ☐A No peat or muck presence
☒B A peat or muck presence

5. Discharge into Wetland – opportunity metric

Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc.

- | Surf | Sub | |
|---------------------------------------|---------------------------------------|---|
| ☒ A | ☒ A | Little or no evidence of pollutants or discharges entering the assessment area |
| ☐ B | ☐ B | Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the treatment capacity of the assessment area |
| ☐ C | ☐ C | Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation, odor) |

6. Land Use – opportunity metric (skip for non-riparian wetlands)

Check all that apply (at least one box in each column). Evaluation involves a GIS effort with field adjustment. Consider sources draining to assessment area within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles and within the watershed draining to the assessment area (2M).

- | WS | 5M | 2M | |
|---------------------------------------|---------------------------------------|---------------------------------------|---|
| ☐ A | ☐ A | ☐ A | ≥ 10% impervious surfaces |
| ☐ B | ☐ B | ☐ B | Confined animal operations (or other local, concentrated source of pollutants) |
| ☐ C | ☐ C | ☐ C | ≥ 20% coverage of pasture |
| ☒ D | ☒ D | ☒ D | ≥ 20% coverage of agricultural land (regularly plowed land) |
| ☐ E | ☐ E | ☐ E | ≥ 20% coverage of maintained grass/herb |
| ☐ F | ☐ F | ☐ F | ≥ 20% coverage of clear-cut land |
| ☐ G | ☐ G | ☐ G | Little or no opportunity to improve water quality. Lack of opportunity may result from little or no disturbance in the watershed <u>or</u> hydrologic alterations that prevent drainage <u>and/or</u> overbank flow from affecting the assessment area. |

7. Wetland Acting as Vegetated Buffer – assessment area/wetland complex condition metric (skip for non-riparian wetlands)

- 7a. Is assessment area within 50 feet of a tributary or other open water?
☒Yes ☐No If Yes, continue to 7b. If No, skip to Metric 8.
Wetland buffer need only be present on one side of the water body. Make buffer judgment based on the average width of wetland. Record a note if a portion of the buffer has been removed or disturbed.
- 7b. How much of the first 50 feet from the bank is wetland? (Wetland buffer need only be present on one side of the water body. Make buffer judgment based on the average width of wetland. Record a note if a portion of the buffer has been removed or disturbed.)
☒A ≥ 50 feet
☐B From 30 to < 50 feet
☐C From 15 to < 30 feet
☐D From 5 to < 15 feet
☐E < 5 feet or buffer bypassed by ditches
- 7c. Tributary width. If the tributary is anastomosed, combine widths of channels/braids for a total width.
☒≤ 15-feet wide ☐ > 15-feet wide ☐ Other open water (no tributary present)
- 7d. Do roots of assessment area vegetation extend into the bank of the tributary/open water?
☒Yes ☐No
- 7e. Is stream or other open water sheltered or exposed?
☒Sheltered – adjacent open water with width < 2500 feet and no regular boat traffic.
☐Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic.

8. Wetland Width at the Assessment Area – wetland type/wetland complex condition metric (evaluate WT for all marshes and Estuarine Woody Wetland only; evaluate WC for Bottomland Hardwood Forest, Headwater Forest, and Riverine Swamp Forest only)

Check a box in each column for riverine wetlands only. Select the average width for the wetland type at the assessment area (WT) and the wetland complex at the assessment area (WC). See User Manual for WT and WC boundaries.

- | WT | WC | |
|----------------------------|---------------------------------------|-----------------------|
| ☐ A | ☒ A | ≥ 100 feet |
| ☐ B | ☐ B | From 80 to < 100 feet |
| ☐ C | ☐ C | From 50 to < 80 feet |
| ☐ D | ☐ D | From 40 to < 50 feet |
| ☐ E | ☐ E | From 30 to < 40 feet |
| ☐ F | ☐ F | From 15 to < 30 feet |
| ☐ G | ☐ G | From 5 to < 15 feet |
| ☐ H | ☐ H | < 5 feet |

9. Inundation Duration – assessment area condition metric (skip for non-riparian wetlands)

Answer for assessment area dominant landform.

- ☐A Evidence of short-duration inundation (< 7 consecutive days)
☐B Evidence of saturation, without evidence of inundation
☒C Evidence of long-duration inundation or very long-duration inundation (7 to 30 consecutive days or more)

10. Indicators of Deposition – assessment area condition metric (skip for non-riparian wetlands and all marshes)

Consider recent deposition only (no plant growth since deposition).

- ☒A Sediment deposition is not excessive, but at approximately natural levels.
☐B Sediment deposition is excessive, but not overwhelming the wetland.
☐C Sediment deposition is excessive and is overwhelming the wetland.

11. Wetland Size – wetland type/wetland complex condition metric

Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the wetland complex (WC), and the size of the forested wetland (FW) (if applicable, see User Manual). See the User Manual for boundaries of these evaluation areas. If assessment area is clear-cut, select "K" for the FW column.

- | WT | WC | FW (if applicable) |
|---------------------------------------|---------------------------------------|---|
| ☐ A | ☐ A | ☐ A ≥ 500 acres |
| ☒ B | ☒ B | ☒ B From 100 to < 500 acres |
| ☐ C | ☐ C | ☐ C From 50 to < 100 acres |
| ☐ D | ☐ D | ☐ D From 25 to < 50 acres |
| ☐ E | ☐ E | ☐ E From 10 to < 25 acres |
| ☐ F | ☐ F | ☐ F From 5 to < 10 acres |
| ☐ G | ☐ G | ☐ G From 1 to < 5 acres |
| ☐ H | ☐ H | ☐ H From 0.5 to < 1 acre |
| ☐ I | ☐ I | ☐ I From 0.1 to < 0.5 acre |
| ☐ J | ☐ J | ☐ J From 0.01 to < 0.1 acre |
| ☐ K | ☐ K | ☐ K < 0.01 acre <u>or</u> assessment area is clear-cut |

12. Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)

- ☐A Pocosin is the full extent (≥ 90%) of its natural landscape size.
☐B Pocosin type is < 90% of the full extent of its natural landscape size.

13. Connectivity to Other Natural Areas – landscape condition metric

13a. Check appropriate box(es) (a box may be checked in each column). Involves a GIS effort with field adjustment. This metric evaluates whether the wetland is well connected (Well) and/or loosely connected (Loosely) to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate). Boundaries are formed by four-lane roads, regularly maintained utility line corridors the width of a four-lane road or wider, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide.

- | Well | Loosely |
|---------------------------------------|---|
| ☒ A | ☒ A ≥ 500 acres |
| ☐ B | ☐ B From 100 to < 500 acres |
| ☐ C | ☐ C From 50 to < 100 acres |
| ☐ D | ☐ D From 10 to < 50 acres |
| ☐ E | ☐ E < 10 acres |
| ☐ F | ☐ F Wetland type has a poor or no connection to other natural habitats |

13b. Evaluate for marshes only.

- ☐Yes ☐No Wetland type has a surface hydrology connection to open waters/stream or tidal wetlands.

14. Edge Effect – wetland type condition metric (skip for all marshes and Estuarine Woody Wetland)

May involve a GIS effort with field adjustment. Estimate distance from wetland type boundary to artificial edges. Artificial edges include non-forested areas ≥ 40 feet wide such as fields, development, roads, regularly maintained utility line corridors, and clear-cuts. Consider the eight main points of the compass. Artificial edge occurs within 150 feet in how many directions? If the assessment area is clear cut, select option "C."

- ☐A 0
☒B 1 to 4
☐C 5 to 8

15. Vegetative Composition – assessment area condition metric (skip for all marshes and Pine Flat)

- ☒A Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area.
☐B Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata.
☐C Vegetation severely altered from reference in composition, or expected species are unnaturally absent (planted stands of non-characteristic species or at least one stratum inappropriately composed of a single species), or exotic species are dominant in at least one stratum.

16. Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)

- ☐A Vegetation diversity is high and is composed primarily of native species (< 10% cover of exotics).
☐B Vegetation diversity is low or has > 10% to 50% cover of exotics.
☐C Vegetation is dominated by exotic species (> 50 % cover of exotics).

17. Vegetative Structure – assessment area/wetland type condition metric

17a. Is vegetation present?

☒ Yes ☐ No If Yes, continue to 17b. If No, skip to Metric 18.

17b. Evaluate percent coverage of assessment area vegetation **for all marshes only**. Skip to 17c for non-marsh wetlands.

- ☐ A ≥ 25% coverage of vegetation
☐ B < 25% coverage of vegetation

17c. **Check a box in each column for each stratum.** Evaluate this portion of the metric **for non-marsh wetlands**. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately.

AA	WT	
Canopy ☒ A	☒ A	Canopy closed, or nearly closed, with natural gaps associated with natural processes
☐ B	☐ B	Canopy present, but opened more than natural gaps
☐ C	☐ C	Canopy sparse or absent
Mid-Story ☐ A	☐ A	Dense mid-story/sapling layer
☒ B	☒ B	Moderate density mid-story/sapling layer
☐ C	☐ C	Mid-story/sapling layer sparse or absent
Shrub ☐ A	☐ A	Dense shrub layer
☐ B	☐ B	Moderate density shrub layer
☒ C	☒ C	Shrub layer sparse or absent
Herb ☐ A	☐ A	Dense herb layer
☐ B	☐ B	Moderate density herb layer
☒ C	☒ C	Herb layer sparse or absent

18. Snags – wetland type condition metric (skip for all marshes)

- ☒ A Large snags (more than one) are visible (> 12 inches DBH, or large relative to species present and landscape stability).
☐ B Not A

19. Diameter Class Distribution – wetland type condition metric (skip for all marshes)

- ☒ A Majority of canopy trees have stems > 6 inches in diameter at breast height (DBH); many large trees (> 12 inches DBH) are present.
☐ B Majority of canopy trees have stems between 6 and 12 inches DBH, few are > 12 inch DBH.
☐ C Majority of canopy trees are < 6 inches DBH or no trees.

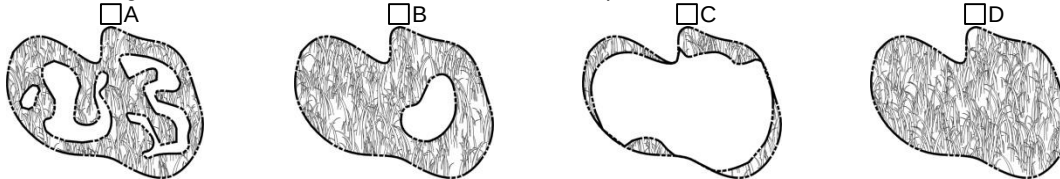
20. Large Woody Debris – wetland type condition metric (skip for all marshes)

Include both natural debris and man-placed natural debris.

- ☒ A Large logs (more than one) are visible (> 12 inches in diameter, or large relative to species present and landscape stability).
☐ B Not A

21. Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)

Select the figure that best describes the amount of interspersions between vegetation and open water in the growing season. Patterned areas indicate vegetated areas, while solid white areas indicate open water.



22. Hydrologic Connectivity – assessment area condition metric (evaluate for riparian wetlands and Salt/Brackish Marsh only)

Examples of activities that may severely alter hydrologic connectivity include intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, and stream incision. Documentation required if evaluated as B, C, or D.

- ☒ A Overbank and overland flow are not severely altered in the assessment area.
☐ B Overbank flow is severely altered in the assessment area.
☐ C Overland flow is severely altered in the assessment area.
☐ D Both overbank and overland flow are severely altered in the assessment area.

Notes

NC WAM Wetland Rating Sheet **Accompanies User Manual Version 5.0**

Wetland Site Name WA/WB/WG/WV/WX Date of Assessment 04/06/2026
Wetland Type Riverine Swamp Forest Assessor Name/Organization Trevor Hall/ Three Oaks Engineers

Notes on Field Assessment Form (Y/N) NO
Presence of regulatory considerations (Y/N) YES
Wetland is intensively managed (Y/N) NO
Assessment area is located within 50 feet of a natural tributary or other open water (Y/N) YES
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	LOW
Water Quality	Pathogen Change	Condition	LOW
		Condition/Opportunity	LOW
		Opportunity Presence (Y/N)	NO
	Particulate Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence (Y/N)	YES
	Soluble Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence (Y/N)	YES
	Physical Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence (Y/N)	YES
	Pollution Change	Condition	NA
		Condition/Opportunity	NA
		Opportunity Presence (Y/N)	NA
Habitat	Physical Structure	Condition	MEDIUM
	Landscape Patch Structure	Condition	HIGH
	Vegetation Composition	Condition	HIGH

Function Rating Summary

Function	Metrics	Rating
Hydrology	Condition	LOW
Water Quality	Condition	HIGH
	Condition/Opportunity	HIGH
	Opportunity Presence (Y/N)	YES
Habitat	Condition	HIGH

Overall Wetland Rating HIGH

NC WAM FIELD ASSESSMENT FORM
Accompanies User Manual Version 5.0

USACE AID #		NCDWR#	
Project Name	NCDOT STIP: HO-0027	Date of Evaluation	04/08/2026
Applicant/Owner Name	NCDOT	Wetland Site Name	WC/WH/WI/WJ/WK/WP
Wetland Type	Riverine Swamp Forest	Assessor Name/Organization	Trevor Hall/ Three Oaks Engineers
Level III Ecoregion	Middle Atlantic Coastal Plain	Nearest Named Water Body	South Lake
River Basin	Pasquotank	USGS 8-Digit Catalogue Unit	03010205
County	Dare	NCDWR Region	Washington
☐ Yes ☒ No	Precipitation within 48 hrs?	Latitude/Longitude (dec-degrees)	35.872844, -75.893344

Evidence of stressors affecting the assessment area (may not be within the assessment area)

Please circle and/or make note on the last page if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past (for instance, within 10 years). Noteworthy stressors include, but are not limited to the following.

- Hydrological modifications (examples: ditches, dams, beaver dams, dikes, berms, ponds, etc.)
- Surface and sub-surface discharges into the wetland (examples: discharges containing obvious pollutants, presence of nearby septic tanks, underground storage tanks (USTs), hog lagoons, etc.)
- Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.)
- Habitat/plant community alteration (examples: mowing, clear-cutting, exotics, etc.)

Is the assessment area intensively managed? ☐ Yes ☒ No

Regulatory Considerations - Were regulatory considerations evaluated? ☒ Yes ☐ No If Yes, check all that apply to the assessment area.

- ☒ Anadromous fish
- ☐ Federally protected species or State endangered or threatened species
- ☐ NCDWR riparian buffer rule in effect
- ☐ Abuts a Primary Nursery Area (PNA)
- ☐ Publicly owned property
- ☐ N.C. Division of Coastal Management Area of Environmental Concern (AEC) (including buffer)
- ☐ Abuts a stream with a NCDWQ classification of SA or supplemental classifications of HQW, ORW, or Trout
- ☐ Designated NCNHP reference community
- ☐ Abuts a 303(d)-listed stream or a tributary to a 303(d)-listed stream

What type of natural stream is associated with the wetland, if any? (check all that apply)

- ☒ Blackwater
- ☐ Brownwater
- ☒ Tidal (if tidal, check one of the following boxes) ☐ Lunar ☒ Wind ☐ Both

Is the assessment area on a coastal island? ☐ Yes ☒ No

Is the assessment area's surface water storage capacity or duration substantially altered by beaver? ☐ Yes ☒ No

Does the assessment area experience overbank flooding during normal rainfall conditions? ☐ Yes ☒ No

1. Ground Surface Condition/Vegetation Condition – assessment area condition metric

Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation structure (VS) in the assessment area. Compare to reference wetland if applicable (see User Manual). If a reference is not applicable, then rate the assessment area based on evidence an effect.

- | | | |
|---------------------------------------|---------------------------------------|--|
| GS | VS | |
| ☒ A | ☒ A | Not severely altered |
| ☐ B | ☐ B | Severely altered over a majority of the assessment area (ground surface alteration examples: vehicle tracks, excessive sedimentation, fire-plow lanes, skidder tracks, bedding, fill, soil compaction, obvious pollutants) (vegetation structure alteration examples: mechanical disturbance, herbicides, salt intrusion [where appropriate], exotic species, grazing, less diversity [if appropriate], hydrologic alteration) |

2. Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric

Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub). Consider both increase and decrease in hydrology. A ditch ≤ 1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if applicable.

- | | | |
|---------------------------------------|---------------------------------------|--|
| Surf | Sub | |
| ☐ A | ☐ A | Water storage capacity and duration are not altered. |
| ☐ B | ☒ B | Water storage capacity or duration are altered, but not substantially (typically, not sufficient to change vegetation). |
| ☒ C | ☐ C | Water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples: draining, flooding, soil compaction, filling, excessive sedimentation, underground utility lines). |

3. Water Storage/Surface Relief – assessment area/wetland type condition metric (skip for all marshes)

Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT).

- | | | |
|---|---------------------------------------|---|
| AA | WT | |
| 3a. ☒ A | ☒ A | Majority of wetland with depressions able to pond water > 1 deep |
| ☐ B | ☐ B | Majority of wetland with depressions able to pond water 6 inches to 1 foot deep |
| ☐ C | ☐ C | Majority of wetland with depressions able to pond water 3 to 6 inches deep |
| ☐ D | ☐ D | Depressions able to pond water < 3 inches deep |
| 3b. ☒ A | | Evidence that maximum depth of inundation is greater than 2 feet |
| ☐ B | | Evidence that maximum depth of inundation is between 1 and 2 feet |
| ☐ C | | Evidence that maximum depth of inundation is less than 1 foot |

4. Soil Texture/Structure – assessment area condition metric (skip for all marshes)

Check a box from each of the three soil property groups below. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top 12 inches. Use most recent National Technical Committee for Hydric Soils guidance for regional indicators.

- 4a. ☐A Sandy soil
☐B Loamy or clayey soils exhibiting redoximorphic features (concentrations, depletions, or rhizospheres)
☒C Loamy or clayey soils not exhibiting redoximorphic features
☐D Loamy or clayey gleyed soil
☐E Histosol or histic epipedon
- 4b. ☐A Soil ribbon < 1 inch
☒B Soil ribbon ≥ 1 inch
- 4c. ☐A No peat or muck presence
☒B A peat or muck presence

5. Discharge into Wetland – opportunity metric

Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc.

- | Surf | Sub | |
|---------------------------------------|---------------------------------------|---|
| ☒ A | ☒ A | Little or no evidence of pollutants or discharges entering the assessment area |
| ☐ B | ☐ B | Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the treatment capacity of the assessment area |
| ☐ C | ☐ C | Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation, odor) |

6. Land Use – opportunity metric (skip for non-riparian wetlands)

Check all that apply (at least one box in each column). Evaluation involves a GIS effort with field adjustment. Consider sources draining to assessment area within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles and within the watershed draining to the assessment area (2M).

- | WS | 5M | 2M | |
|---------------------------------------|---------------------------------------|---------------------------------------|---|
| ☐ A | ☐ A | ☐ A | ≥ 10% impervious surfaces |
| ☐ B | ☐ B | ☐ B | Confined animal operations (or other local, concentrated source of pollutants) |
| ☐ C | ☐ C | ☐ C | ≥ 20% coverage of pasture |
| ☒ D | ☒ D | ☒ D | ≥ 20% coverage of agricultural land (regularly plowed land) |
| ☐ E | ☐ E | ☐ E | ≥ 20% coverage of maintained grass/herb |
| ☐ F | ☐ F | ☐ F | ≥ 20% coverage of clear-cut land |
| ☐ G | ☐ G | ☐ G | Little or no opportunity to improve water quality. Lack of opportunity may result from little or no disturbance in the watershed <u>or</u> hydrologic alterations that prevent drainage <u>and/or</u> overbank flow from affecting the assessment area. |

7. Wetland Acting as Vegetated Buffer – assessment area/wetland complex condition metric (skip for non-riparian wetlands)

- 7a. Is assessment area within 50 feet of a tributary or other open water?
☒Yes ☐No If Yes, continue to 7b. If No, skip to Metric 8.
Wetland buffer need only be present on one side of the water body. Make buffer judgment based on the average width of wetland. Record a note if a portion of the buffer has been removed or disturbed.
- 7b. How much of the first 50 feet from the bank is wetland? (Wetland buffer need only be present on one side of the water body. Make buffer judgment based on the average width of wetland. Record a note if a portion of the buffer has been removed or disturbed.)
☒A ≥ 50 feet
☐B From 30 to < 50 feet
☐C From 15 to < 30 feet
☐D From 5 to < 15 feet
☐E < 5 feet or buffer bypassed by ditches
- 7c. Tributary width. If the tributary is anastomosed, combine widths of channels/braids for a total width.
☒≤ 15-feet wide ☐ > 15-feet wide ☐ Other open water (no tributary present)
- 7d. Do roots of assessment area vegetation extend into the bank of the tributary/open water?
☒Yes ☐No
- 7e. Is stream or other open water sheltered or exposed?
☒Sheltered – adjacent open water with width < 2500 feet and no regular boat traffic.
☐Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic.

8. Wetland Width at the Assessment Area – wetland type/wetland complex condition metric (evaluate WT for all marshes and Estuarine Woody Wetland only; evaluate WC for Bottomland Hardwood Forest, Headwater Forest, and Riverine Swamp Forest only)

Check a box in each column for riverine wetlands only. Select the average width for the wetland type at the assessment area (WT) and the wetland complex at the assessment area (WC). See User Manual for WT and WC boundaries.

- | WT | WC | |
|----------------------------|---------------------------------------|-----------------------|
| ☐ A | ☒ A | ≥ 100 feet |
| ☐ B | ☐ B | From 80 to < 100 feet |
| ☐ C | ☐ C | From 50 to < 80 feet |
| ☐ D | ☐ D | From 40 to < 50 feet |
| ☐ E | ☐ E | From 30 to < 40 feet |
| ☐ F | ☐ F | From 15 to < 30 feet |
| ☐ G | ☐ G | From 5 to < 15 feet |
| ☐ H | ☐ H | < 5 feet |

9. Inundation Duration – assessment area condition metric (skip for non-riparian wetlands)

Answer for assessment area dominant landform.

- ☐A Evidence of short-duration inundation (< 7 consecutive days)
☐B Evidence of saturation, without evidence of inundation
☒C Evidence of long-duration inundation or very long-duration inundation (7 to 30 consecutive days or more)

10. Indicators of Deposition – assessment area condition metric (skip for non-riparian wetlands and all marshes)

Consider recent deposition only (no plant growth since deposition).

- ☒A Sediment deposition is not excessive, but at approximately natural levels.
☐B Sediment deposition is excessive, but not overwhelming the wetland.
☐C Sediment deposition is excessive and is overwhelming the wetland.

11. Wetland Size – wetland type/wetland complex condition metric

Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the wetland complex (WC), and the size of the forested wetland (FW) (if applicable, see User Manual). See the User Manual for boundaries of these evaluation areas. If assessment area is clear-cut, select "K" for the FW column.

WT	WC	FW (if applicable)
☐ A	☐ A	☐ A ≥ 500 acres
☒ B	☒ B	☒ B From 100 to < 500 acres
☐ C	☐ C	☐ C From 50 to < 100 acres
☐ D	☐ D	☐ D From 25 to < 50 acres
☐ E	☐ E	☐ E From 10 to < 25 acres
☐ F	☐ F	☐ F From 5 to < 10 acres
☐ G	☐ G	☐ G From 1 to < 5 acres
☐ H	☐ H	☐ H From 0.5 to < 1 acre
☐ I	☐ I	☐ I From 0.1 to < 0.5 acre
☐ J	☐ J	☐ J From 0.01 to < 0.1 acre
☐ K	☐ K	☐ K < 0.01 acre <u>or</u> assessment area is clear-cut

12. Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)

- ☐A Pocosin is the full extent (≥ 90%) of its natural landscape size.
☐B Pocosin type is < 90% of the full extent of its natural landscape size.

13. Connectivity to Other Natural Areas – landscape condition metric

13a. Check appropriate box(es) (a box may be checked in each column). Involves a GIS effort with field adjustment. This metric evaluates whether the wetland is well connected (Well) and/or loosely connected (Loosely) to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate). Boundaries are formed by four-lane roads, regularly maintained utility line corridors the width of a four-lane road or wider, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide.

Well	Loosely
☒ A	☒ A ≥ 500 acres
☐ B	☐ B From 100 to < 500 acres
☐ C	☐ C From 50 to < 100 acres
☐ D	☐ D From 10 to < 50 acres
☐ E	☐ E < 10 acres
☐ F	☐ F Wetland type has a poor or no connection to other natural habitats

13b. Evaluate for marshes only.

- ☐Yes ☐No Wetland type has a surface hydrology connection to open waters/stream or tidal wetlands.

14. Edge Effect – wetland type condition metric (skip for all marshes and Estuarine Woody Wetland)

May involve a GIS effort with field adjustment. Estimate distance from wetland type boundary to artificial edges. Artificial edges include non-forested areas ≥ 40 feet wide such as fields, development, roads, regularly maintained utility line corridors, and clear-cuts. Consider the eight main points of the compass. Artificial edge occurs within 150 feet in how many directions? If the assessment area is clear cut, select option "C."

- ☐A 0
☒B 1 to 4
☐C 5 to 8

15. Vegetative Composition – assessment area condition metric (skip for all marshes and Pine Flat)

- ☒A Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area.
☐B Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata.
☐C Vegetation severely altered from reference in composition, or expected species are unnaturally absent (planted stands of non-characteristic species or at least one stratum inappropriately composed of a single species), or exotic species are dominant in at least one stratum.

16. Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)

- ☐A Vegetation diversity is high and is composed primarily of native species (< 10% cover of exotics).
☐B Vegetation diversity is low or has > 10% to 50% cover of exotics.
☐C Vegetation is dominated by exotic species (> 50 % cover of exotics).

17. Vegetative Structure – assessment area/wetland type condition metric

17a. Is vegetation present?

☒ Yes ☐ No If Yes, continue to 17b. If No, skip to Metric 18.

17b. Evaluate percent coverage of assessment area vegetation **for all marshes only**. Skip to 17c for non-marsh wetlands.

- ☐ A ≥ 25% coverage of vegetation
☐ B < 25% coverage of vegetation

17c. **Check a box in each column for each stratum.** Evaluate this portion of the metric **for non-marsh wetlands**. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately.

AA	WT	
Canopy ☒ A	☒ A	Canopy closed, or nearly closed, with natural gaps associated with natural processes
☐ B	☐ B	Canopy present, but opened more than natural gaps
☐ C	☐ C	Canopy sparse or absent
Mid-Story ☐ A	☐ A	Dense mid-story/sapling layer
☒ B	☒ B	Moderate density mid-story/sapling layer
☐ C	☐ C	Mid-story/sapling layer sparse or absent
Shrub ☐ A	☐ A	Dense shrub layer
☐ B	☐ B	Moderate density shrub layer
☒ C	☒ C	Shrub layer sparse or absent
Herb ☐ A	☐ A	Dense herb layer
☐ B	☐ B	Moderate density herb layer
☒ C	☒ C	Herb layer sparse or absent

18. Snags – wetland type condition metric (skip for all marshes)

- ☒ A Large snags (more than one) are visible (> 12 inches DBH, or large relative to species present and landscape stability).
☐ B Not A

19. Diameter Class Distribution – wetland type condition metric (skip for all marshes)

- ☒ A Majority of canopy trees have stems > 6 inches in diameter at breast height (DBH); many large trees (> 12 inches DBH) are present.
☐ B Majority of canopy trees have stems between 6 and 12 inches DBH, few are > 12 inch DBH.
☐ C Majority of canopy trees are < 6 inches DBH or no trees.

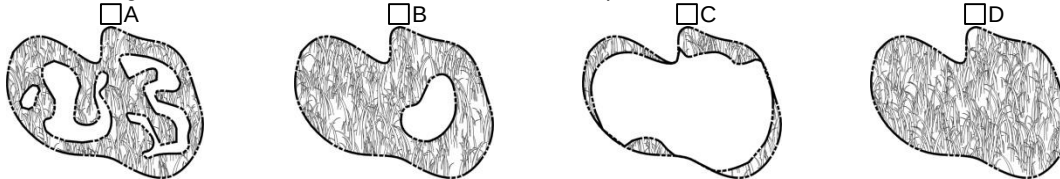
20. Large Woody Debris – wetland type condition metric (skip for all marshes)

Include both natural debris and man-placed natural debris.

- ☒ A Large logs (more than one) are visible (> 12 inches in diameter, or large relative to species present and landscape stability).
☐ B Not A

21. Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)

Select the figure that best describes the amount of interspersions between vegetation and open water in the growing season. Patterned areas indicate vegetated areas, while solid white areas indicate open water.



22. Hydrologic Connectivity – assessment area condition metric (evaluate for riparian wetlands and Salt/Brackish Marsh only)

Examples of activities that may severely alter hydrologic connectivity include intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, and stream incision. Documentation required if evaluated as B, C, or D.

- ☒ A Overbank and overland flow are not severely altered in the assessment area.
☐ B Overbank flow is severely altered in the assessment area.
☐ C Overland flow is severely altered in the assessment area.
☐ D Both overbank and overland flow are severely altered in the assessment area.

Notes

These large wetlands contain multiple wetland types, this form represents the Riverine Swamp Forest portion of these wetlands.

NC WAM Wetland Rating Sheet **Accompanies User Manual Version 5.0**

Wetland Site Name WC/WH/WI/WJ/WK/WP Date of Assessment 04/08/2026
Wetland Type Riverine Swamp Forest Assessor Name/Organization Trevor Hall/ Three Oaks Engineers

Notes on Field Assessment Form (Y/N) YES
Presence of regulatory considerations (Y/N) YES
Wetland is intensively managed (Y/N) NO
Assessment area is located within 50 feet of a natural tributary or other open water (Y/N) YES
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	LOW
Water Quality	Pathogen Change	Condition	LOW
		Condition/Opportunity	LOW
		Opportunity Presence (Y/N)	NO
	Particulate Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence (Y/N)	YES
	Soluble Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence (Y/N)	YES
	Physical Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence (Y/N)	YES
	Pollution Change	Condition	NA
		Condition/Opportunity	NA
		Opportunity Presence (Y/N)	NA
Habitat	Physical Structure	Condition	MEDIUM
	Landscape Patch Structure	Condition	HIGH
	Vegetation Composition	Condition	HIGH

Function Rating Summary

Function	Metrics	Rating
Hydrology	Condition	LOW
Water Quality	Condition	HIGH
	Condition/Opportunity	HIGH
	Opportunity Presence (Y/N)	YES
Habitat	Condition	HIGH

Overall Wetland Rating HIGH

NC WAM FIELD ASSESSMENT FORM
Accompanies User Manual Version 5.0

USACE AID #		NCDWR#	
Project Name	NCDOT STIP: HO-0027	Date of Evaluation	04/08/2026
Applicant/Owner Name	NCDOT	Wetland Site Name	WC/WH/WI/WJ/WK/WP
Wetland Type	Tidal Freshwater Marsh	Assessor Name/Organization	Trevor Hall/ Three Oaks Engineers
Level III Ecoregion	Middle Atlantic Coastal Plain	Nearest Named Water Body	South Lake (Alligator River)
River Basin	Pasquotank	USGS 8-Digit Catalogue Unit	03010205
County	Dare	NCDWR Region	Washington
☐ Yes ☒ No	Precipitation within 48 hrs?	Latitude/Longitude (dec-degrees)	35.874056, -75.930859

Evidence of stressors affecting the assessment area (may not be within the assessment area)

Please circle and/or make note on the last page if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past (for instance, within 10 years). Noteworthy stressors include, but are not limited to the following.

- Hydrological modifications (examples: ditches, dams, beaver dams, dikes, berms, ponds, etc.)
- Surface and sub-surface discharges into the wetland (examples: discharges containing obvious pollutants, presence of nearby septic tanks, underground storage tanks (USTs), hog lagoons, etc.)
- Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.)
- Habitat/plant community alteration (examples: mowing, clear-cutting, exotics, etc.)

Is the assessment area intensively managed? ☐ Yes ☒ No

Regulatory Considerations - Were regulatory considerations evaluated? ☒ Yes ☐ No If Yes, check all that apply to the assessment area.

- ☒ Anadromous fish
- ☒ Federally protected species or State endangered or threatened species
- ☐ NCDWR riparian buffer rule in effect
- ☐ Abuts a Primary Nursery Area (PNA)
- ☒ Publicly owned property
- ☐ N.C. Division of Coastal Management Area of Environmental Concern (AEC) (including buffer)
- ☐ Abuts a stream with a NCDWQ classification of SA or supplemental classifications of HQW, ORW, or Trout
- ☒ Designated NCNHP reference community
- ☐ Abuts a 303(d)-listed stream or a tributary to a 303(d)-listed stream

What type of natural stream is associated with the wetland, if any? (check all that apply)

- ☒ Blackwater
- ☐ Brownwater
- ☒ Tidal (if tidal, check one of the following boxes) ☐ Lunar ☒ Wind ☐ Both

Is the assessment area on a coastal island? ☐ Yes ☒ No

Is the assessment area's surface water storage capacity or duration substantially altered by beaver? ☐ Yes ☒ No

Does the assessment area experience overbank flooding during normal rainfall conditions? ☐ Yes ☒ No

1. Ground Surface Condition/Vegetation Condition – assessment area condition metric

Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation structure (VS) in the assessment area. Compare to reference wetland if applicable (see User Manual). If a reference is not applicable, then rate the assessment area based on evidence an effect.

- | | | |
|---------------------------------------|---------------------------------------|--|
| GS | VS | |
| ☒ A | ☒ A | Not severely altered |
| ☐ B | ☐ B | Severely altered over a majority of the assessment area (ground surface alteration examples: vehicle tracks, excessive sedimentation, fire-plow lanes, skidder tracks, bedding, fill, soil compaction, obvious pollutants) (vegetation structure alteration examples: mechanical disturbance, herbicides, salt intrusion [where appropriate], exotic species, grazing, less diversity [if appropriate], hydrologic alteration) |

2. Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric

Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub). Consider both increase and decrease in hydrology. A ditch ≤ 1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if applicable.

- | | | |
|---------------------------------------|---------------------------------------|--|
| Surf | Sub | |
| ☐ A | ☐ A | Water storage capacity and duration are not altered. |
| ☐ B | ☒ B | Water storage capacity or duration are altered, but not substantially (typically, not sufficient to change vegetation). |
| ☒ C | ☐ C | Water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples: draining, flooding, soil compaction, filling, excessive sedimentation, underground utility lines). |

3. Water Storage/Surface Relief – assessment area/wetland type condition metric (skip for all marshes)

Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT).

- | | | | |
|-----|----------------------------|----------------------------|---|
| | AA | WT | |
| 3a. | ☐ A | ☐ A | Majority of wetland with depressions able to pond water > 1 deep |
| | ☐ B | ☐ B | Majority of wetland with depressions able to pond water 6 inches to 1 foot deep |
| | ☐ C | ☐ C | Majority of wetland with depressions able to pond water 3 to 6 inches deep |
| | ☐ D | ☐ D | Depressions able to pond water < 3 inches deep |
| 3b. | ☐ A | | Evidence that maximum depth of inundation is greater than 2 feet |
| | ☐ B | | Evidence that maximum depth of inundation is between 1 and 2 feet |
| | ☐ C | | Evidence that maximum depth of inundation is less than 1 foot |

4. Soil Texture/Structure – assessment area condition metric (skip for all marshes)

Check a box from each of the three soil property groups below. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top 12 inches. Use most recent National Technical Committee for Hydric Soils guidance for regional indicators.

- 4a. ☐A Sandy soil
☐B Loamy or clayey soils exhibiting redoximorphic features (concentrations, depletions, or rhizospheres)
☐C Loamy or clayey soils not exhibiting redoximorphic features
☐D Loamy or clayey gleyed soil
☐E Histosol or histic epipedon
- 4b. ☐A Soil ribbon < 1 inch
☐B Soil ribbon ≥ 1 inch
- 4c. ☐A No peat or muck presence
☐B A peat or muck presence

5. Discharge into Wetland – opportunity metric

Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc.

- | Surf | Sub | |
|---------------------------------------|---------------------------------------|---|
| ☒ A | ☒ A | Little or no evidence of pollutants or discharges entering the assessment area |
| ☐ B | ☐ B | Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the treatment capacity of the assessment area |
| ☐ C | ☐ C | Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation, odor) |

6. Land Use – opportunity metric (skip for non-riparian wetlands)

Check all that apply (at least one box in each column). Evaluation involves a GIS effort with field adjustment. Consider sources draining to assessment area within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles and within the watershed draining to the assessment area (2M).

- | WS | 5M | 2M | |
|---------------------------------------|---------------------------------------|---------------------------------------|---|
| ☐ A | ☐ A | ☐ A | ≥ 10% impervious surfaces |
| ☐ B | ☐ B | ☐ B | Confined animal operations (or other local, concentrated source of pollutants) |
| ☐ C | ☐ C | ☐ C | ≥ 20% coverage of pasture |
| ☒ D | ☒ D | ☒ D | ≥ 20% coverage of agricultural land (regularly plowed land) |
| ☐ E | ☐ E | ☐ E | ≥ 20% coverage of maintained grass/herb |
| ☐ F | ☐ F | ☐ F | ≥ 20% coverage of clear-cut land |
| ☐ G | ☐ G | ☐ G | Little or no opportunity to improve water quality. Lack of opportunity may result from little or no disturbance in the watershed <u>or</u> hydrologic alterations that prevent drainage <u>and/or</u> overbank flow from affecting the assessment area. |

7. Wetland Acting as Vegetated Buffer – assessment area/wetland complex condition metric (skip for non-riparian wetlands)

- 7a. Is assessment area within 50 feet of a tributary or other open water?
☒Yes ☐No If Yes, continue to 7b. If No, skip to Metric 8.
Wetland buffer need only be present on one side of the water body. Make buffer judgment based on the average width of wetland. Record a note if a portion of the buffer has been removed or disturbed.
- 7b. How much of the first 50 feet from the bank is wetland? (Wetland buffer need only be present on one side of the water body. Make buffer judgment based on the average width of wetland. Record a note if a portion of the buffer has been removed or disturbed.)
☒A ≥ 50 feet
☐B From 30 to < 50 feet
☐C From 15 to < 30 feet
☐D From 5 to < 15 feet
☐E < 5 feet or buffer bypassed by ditches
- 7c. Tributary width. If the tributary is anastomosed, combine widths of channels/braids for a total width.
☒≤ 15-feet wide ☐ > 15-feet wide ☐ Other open water (no tributary present)
- 7d. Do roots of assessment area vegetation extend into the bank of the tributary/open water?
☒Yes ☐No
- 7e. Is stream or other open water sheltered or exposed?
☒Sheltered – adjacent open water with width < 2500 feet and no regular boat traffic.
☐Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic.

8. Wetland Width at the Assessment Area – wetland type/wetland complex condition metric (evaluate WT for all marshes and Estuarine Woody Wetland only; evaluate WC for Bottomland Hardwood Forest, Headwater Forest, and Riverine Swamp Forest only)

Check a box in each column for riverine wetlands only. Select the average width for the wetland type at the assessment area (WT) and the wetland complex at the assessment area (WC). See User Manual for WT and WC boundaries.

- | WT | WC | |
|---------------------------------------|----------------------------|-----------------------|
| ☒ A | ☐ A | ≥ 100 feet |
| ☐ B | ☐ B | From 80 to < 100 feet |
| ☐ C | ☐ C | From 50 to < 80 feet |
| ☐ D | ☐ D | From 40 to < 50 feet |
| ☐ E | ☐ E | From 30 to < 40 feet |
| ☐ F | ☐ F | From 15 to < 30 feet |
| ☐ G | ☐ G | From 5 to < 15 feet |
| ☐ H | ☐ H | < 5 feet |

9. Inundation Duration – assessment area condition metric (skip for non-riparian wetlands)

Answer for assessment area dominant landform.

- ☐A Evidence of short-duration inundation (< 7 consecutive days)
☐B Evidence of saturation, without evidence of inundation
☒C Evidence of long-duration inundation or very long-duration inundation (7 to 30 consecutive days or more)

10. Indicators of Deposition – assessment area condition metric (skip for non-riparian wetlands and all marshes)

Consider recent deposition only (no plant growth since deposition).

- ☐A Sediment deposition is not excessive, but at approximately natural levels.
☐B Sediment deposition is excessive, but not overwhelming the wetland.
☐C Sediment deposition is excessive and is overwhelming the wetland.

11. Wetland Size – wetland type/wetland complex condition metric

Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the wetland complex (WC), and the size of the forested wetland (FW) (if applicable, see User Manual). See the User Manual for boundaries of these evaluation areas. If assessment area is clear-cut, select "K" for the FW column.

- | WT | WC | FW (if applicable) |
|---------------------------------------|---------------------------------------|---|
| ☐ A | ☐ A | ☐ A ≥ 500 acres |
| ☒ B | ☒ B | ☒ B From 100 to < 500 acres |
| ☐ C | ☐ C | ☐ C From 50 to < 100 acres |
| ☐ D | ☐ D | ☐ D From 25 to < 50 acres |
| ☐ E | ☐ E | ☐ E From 10 to < 25 acres |
| ☐ F | ☐ F | ☐ F From 5 to < 10 acres |
| ☐ G | ☐ G | ☐ G From 1 to < 5 acres |
| ☐ H | ☐ H | ☐ H From 0.5 to < 1 acre |
| ☐ I | ☐ I | ☐ I From 0.1 to < 0.5 acre |
| ☐ J | ☐ J | ☐ J From 0.01 to < 0.1 acre |
| ☐ K | ☐ K | ☐ K < 0.01 acre <u>or</u> assessment area is clear-cut |

12. Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)

- ☐A Pocosin is the full extent (≥ 90%) of its natural landscape size.
☐B Pocosin type is < 90% of the full extent of its natural landscape size.

13. Connectivity to Other Natural Areas – landscape condition metric

13a. Check appropriate box(es) (a box may be checked in each column). Involves a GIS effort with field adjustment. This metric evaluates whether the wetland is well connected (Well) and/or loosely connected (Loosely) to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate). Boundaries are formed by four-lane roads, regularly maintained utility line corridors the width of a four-lane road or wider, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide.

- | Well | Loosely |
|---------------------------------------|---|
| ☒ A | ☒ A ≥ 500 acres |
| ☐ B | ☐ B From 100 to < 500 acres |
| ☐ C | ☐ C From 50 to < 100 acres |
| ☐ D | ☐ D From 10 to < 50 acres |
| ☐ E | ☐ E < 10 acres |
| ☐ F | ☐ F Wetland type has a poor or no connection to other natural habitats |

13b. Evaluate for marshes only.

- ☒Yes ☐No Wetland type has a surface hydrology connection to open waters/stream or tidal wetlands.

14. Edge Effect – wetland type condition metric (skip for all marshes and Estuarine Woody Wetland)

May involve a GIS effort with field adjustment. Estimate distance from wetland type boundary to artificial edges. Artificial edges include non-forested areas ≥ 40 feet wide such as fields, development, roads, regularly maintained utility line corridors, and clear-cuts. Consider the eight main points of the compass. Artificial edge occurs within 150 feet in how many directions? If the assessment area is clear cut, select option "C."

- ☐A 0
☐B 1 to 4
☐C 5 to 8

15. Vegetative Composition – assessment area condition metric (skip for all marshes and Pine Flat)

- ☐A Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area.
☐B Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata.
☐C Vegetation severely altered from reference in composition, or expected species are unnaturally absent (planted stands of non-characteristic species or at least one stratum inappropriately composed of a single species), or exotic species are dominant in at least one stratum.

16. Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)

- ☐A Vegetation diversity is high and is composed primarily of native species (< 10% cover of exotics).
☐B Vegetation diversity is low or has > 10% to 50% cover of exotics.
☐C Vegetation is dominated by exotic species (> 50 % cover of exotics).

17. Vegetative Structure – assessment area/wetland type condition metric

17a. Is vegetation present?

☒ Yes ☐ No If Yes, continue to 17b. If No, skip to Metric 18.

17b. Evaluate percent coverage of assessment area vegetation **for all marshes only**. Skip to 17c for non-marsh wetlands.

☒ A ≥ 25% coverage of vegetation
☐ B < 25% coverage of vegetation

17c. **Check a box in each column for each stratum.** Evaluate this portion of the metric **for non-marsh wetlands**. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately.

AA	WT	
Canopy ☐ A	☐ A	Canopy closed, or nearly closed, with natural gaps associated with natural processes
☐ B	☐ B	Canopy present, but opened more than natural gaps
☐ C	☐ C	Canopy sparse or absent
Mid-Story ☐ A	☐ A	Dense mid-story/sapling layer
☐ B	☐ B	Moderate density mid-story/sapling layer
☐ C	☐ C	Mid-story/sapling layer sparse or absent
Shrub ☐ A	☐ A	Dense shrub layer
☐ B	☐ B	Moderate density shrub layer
☐ C	☐ C	Shrub layer sparse or absent
Herb ☐ A	☐ A	Dense herb layer
☐ B	☐ B	Moderate density herb layer
☐ C	☐ C	Herb layer sparse or absent

18. Snags – wetland type condition metric (skip for all marshes)

☐ A Large snags (more than one) are visible (> 12 inches DBH, or large relative to species present and landscape stability).
☐ B Not A

19. Diameter Class Distribution – wetland type condition metric (skip for all marshes)

☐ A Majority of canopy trees have stems > 6 inches in diameter at breast height (DBH); many large trees (> 12 inches DBH) are present.
☐ B Majority of canopy trees have stems between 6 and 12 inches DBH, few are > 12 inch DBH.
☐ C Majority of canopy trees are < 6 inches DBH or no trees.

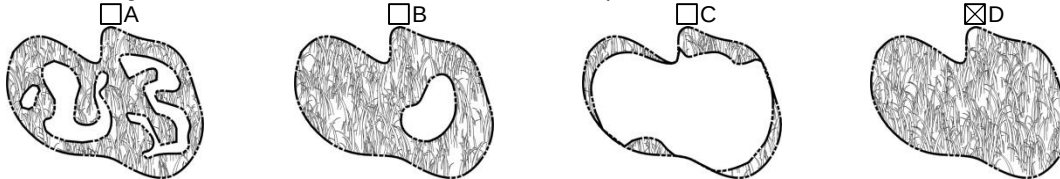
20. Large Woody Debris – wetland type condition metric (skip for all marshes)

Include both natural debris and man-placed natural debris.

☐ A Large logs (more than one) are visible (> 12 inches in diameter, or large relative to species present and landscape stability).
☐ B Not A

21. Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)

Select the figure that best describes the amount of interspersions between vegetation and open water in the growing season. Patterned areas indicate vegetated areas, while solid white areas indicate open water.



22. Hydrologic Connectivity – assessment area condition metric (evaluate for riparian wetlands and Salt/Brackish Marsh only)

Examples of activities that may severely alter hydrologic connectivity include intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, and stream incision. Documentation required if evaluated as B, C, or D.

☒ A Overbank and overland flow are not severely altered in the assessment area.
☐ B Overbank flow is severely altered in the assessment area.
☐ C Overland flow is severely altered in the assessment area.
☐ D Both overbank and overland flow are severely altered in the assessment area.

Notes

These large wetlands contain multiple wetland types, this form represents the Tidal Freshwater Marsh portion of these wetlands. Numerous pine snags are present in these wetlands.

NC WAM Wetland Rating Sheet

Accompanies User Manual Version 5.0

Wetland Site Name WC/WH/WI/WJ/WK/WP Date of Assessment 04/08/2026
Wetland Type Tidal Freshwater Marsh Assessor Name/Organization Trevor Hall/ Three Oaks Engineers

Notes on Field Assessment Form (Y/N) YES
Presence of regulatory considerations (Y/N) YES
Wetland is intensively managed (Y/N) NO
Assessment area is located within 50 feet of a natural tributary or other open water (Y/N) YES
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	NA
		Condition/Opportunity	NA
		Opportunity Presence (Y/N)	NA
Habitat	Physical Structure	Condition	NA
	Landscape Patch Structure	Condition	NA
	Vegetation Composition	Condition	NA

Function Rating Summary

Function	Metrics	Rating
Hydrology	Condition	LOW
Water Quality	Condition	HIGH
	Condition/Opportunity	HIGH
	Opportunity Presence (Y/N)	YES
Habitat	Condition	HIGH

Overall Wetland Rating HIGH

NC WAM FIELD ASSESSMENT FORM
Accompanies User Manual Version 5.0

USACE AID #		NCDWR#	
Project Name	NCDOT STIP: HO-0027	Date of Evaluation	04/08/2026
Applicant/Owner Name	NCDOT	Wetland Site Name	WD/WE/WF
Wetland Type	Riverine Swamp Forest	Assessor Name/Organization	Trevor Hall/ Three Oaks Engineers
Level III Ecoregion	Middle Atlantic Coastal Plain	Nearest Named Water Body	South Lake (Alligator River)
River Basin	Pasquotank	USGS 8-Digit Catalogue Unit	03010205
County	Dare	NCDWR Region	Washington
☐ Yes ☒ No	Precipitation within 48 hrs?	Latitude/Longitude (dec-degrees)	35.871270, -75.896279

Evidence of stressors affecting the assessment area (may not be within the assessment area)

Please circle and/or make note on the last page if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past (for instance, within 10 years). Noteworthy stressors include, but are not limited to the following.

- Hydrological modifications (examples: ditches, dams, beaver dams, dikes, berms, ponds, etc.)
- Surface and sub-surface discharges into the wetland (examples: discharges containing obvious pollutants, presence of nearby septic tanks, underground storage tanks (USTs), hog lagoons, etc.)
- Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.)
- Habitat/plant community alteration (examples: mowing, clear-cutting, exotics, etc.)

Is the assessment area intensively managed? ☐ Yes ☒ No

Regulatory Considerations - Were regulatory considerations evaluated? ☒ Yes ☐ No If Yes, check all that apply to the assessment area.

- ☒ Anadromous fish
- ☒ Federally protected species or State endangered or threatened species
- ☐ NCDWR riparian buffer rule in effect
- ☐ Abuts a Primary Nursery Area (PNA)
- ☒ Publicly owned property
- ☐ N.C. Division of Coastal Management Area of Environmental Concern (AEC) (including buffer)
- ☐ Abuts a stream with a NCDWQ classification of SA or supplemental classifications of HQW, ORW, or Trout
- ☒ Designated NCNHP reference community
- ☐ Abuts a 303(d)-listed stream or a tributary to a 303(d)-listed stream

What type of natural stream is associated with the wetland, if any? (check all that apply)

- ☒ Blackwater
- ☐ Brownwater
- ☐ Tidal (if tidal, check one of the following boxes) ☐ Lunar ☐ Wind ☐ Both

Is the assessment area on a coastal island? ☐ Yes ☒ No

Is the assessment area's surface water storage capacity or duration substantially altered by beaver? ☐ Yes ☒ No

Does the assessment area experience overbank flooding during normal rainfall conditions? ☐ Yes ☒ No

1. Ground Surface Condition/Vegetation Condition – assessment area condition metric

Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation structure (VS) in the assessment area. Compare to reference wetland if applicable (see User Manual). If a reference is not applicable, then rate the assessment area based on evidence an effect.

- | | | |
|---------------------------------------|---------------------------------------|--|
| GS | VS | |
| ☒ A | ☒ A | Not severely altered |
| ☐ B | ☐ B | Severely altered over a majority of the assessment area (ground surface alteration examples: vehicle tracks, excessive sedimentation, fire-plow lanes, skidder tracks, bedding, fill, soil compaction, obvious pollutants) (vegetation structure alteration examples: mechanical disturbance, herbicides, salt intrusion [where appropriate], exotic species, grazing, less diversity [if appropriate], hydrologic alteration) |

2. Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric

Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub). Consider both increase and decrease in hydrology. A ditch ≤ 1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if applicable.

- | | | |
|---------------------------------------|---------------------------------------|--|
| Surf | Sub | |
| ☐ A | ☐ A | Water storage capacity and duration are not altered. |
| ☐ B | ☒ B | Water storage capacity or duration are altered, but not substantially (typically, not sufficient to change vegetation). |
| ☒ C | ☐ C | Water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples: draining, flooding, soil compaction, filling, excessive sedimentation, underground utility lines). |

3. Water Storage/Surface Relief – assessment area/wetland type condition metric (skip for all marshes)

Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT).

- | | | |
|---------------------------------------|---------------------------------------|---|
| AA | WT | |
| 3a. ☐ A | ☐ A | Majority of wetland with depressions able to pond water > 1 deep |
| ☒ B | ☒ B | Majority of wetland with depressions able to pond water 6 inches to 1 foot deep |
| ☐ C | ☐ C | Majority of wetland with depressions able to pond water 3 to 6 inches deep |
| ☐ D | ☐ D | Depressions able to pond water < 3 inches deep |
| 3b. ☐ A | | Evidence that maximum depth of inundation is greater than 2 feet |
| ☒ B | | Evidence that maximum depth of inundation is between 1 and 2 feet |
| ☐ C | | Evidence that maximum depth of inundation is less than 1 foot |

4. Soil Texture/Structure – assessment area condition metric (skip for all marshes)

Check a box from each of the three soil property groups below. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top 12 inches. Use most recent National Technical Committee for Hydric Soils guidance for regional indicators.

- 4a. ☐A Sandy soil
☐B Loamy or clayey soils exhibiting redoximorphic features (concentrations, depletions, or rhizospheres)
☒C Loamy or clayey soils not exhibiting redoximorphic features
☐D Loamy or clayey gleyed soil
☐E Histosol or histic epipedon
- 4b. ☐A Soil ribbon < 1 inch
☒B Soil ribbon ≥ 1 inch
- 4c. ☒A No peat or muck presence
☐B A peat or muck presence

5. Discharge into Wetland – opportunity metric

Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc.

- | Surf | Sub | |
|---------------------------------------|---------------------------------------|---|
| ☒ A | ☒ A | Little or no evidence of pollutants or discharges entering the assessment area |
| ☐ B | ☐ B | Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the treatment capacity of the assessment area |
| ☐ C | ☐ C | Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation, odor) |

6. Land Use – opportunity metric (skip for non-riparian wetlands)

Check all that apply (at least one box in each column). Evaluation involves a GIS effort with field adjustment. Consider sources draining to assessment area within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles and within the watershed draining to the assessment area (2M).

- | WS | 5M | 2M | |
|---------------------------------------|---------------------------------------|---------------------------------------|---|
| ☐ A | ☐ A | ☐ A | ≥ 10% impervious surfaces |
| ☐ B | ☐ B | ☐ B | Confined animal operations (or other local, concentrated source of pollutants) |
| ☐ C | ☐ C | ☐ C | ≥ 20% coverage of pasture |
| ☒ D | ☒ D | ☒ D | ≥ 20% coverage of agricultural land (regularly plowed land) |
| ☐ E | ☐ E | ☐ E | ≥ 20% coverage of maintained grass/herb |
| ☐ F | ☐ F | ☐ F | ≥ 20% coverage of clear-cut land |
| ☐ G | ☐ G | ☐ G | Little or no opportunity to improve water quality. Lack of opportunity may result from little or no disturbance in the watershed <u>or</u> hydrologic alterations that prevent drainage <u>and/or</u> overbank flow from affecting the assessment area. |

7. Wetland Acting as Vegetated Buffer – assessment area/wetland complex condition metric (skip for non-riparian wetlands)

- 7a. Is assessment area within 50 feet of a tributary or other open water?
☒Yes ☐No If Yes, continue to 7b. If No, skip to Metric 8.
Wetland buffer need only be present on one side of the water body. Make buffer judgment based on the average width of wetland. Record a note if a portion of the buffer has been removed or disturbed.
- 7b. How much of the first 50 feet from the bank is wetland? (Wetland buffer need only be present on one side of the water body. Make buffer judgment based on the average width of wetland. Record a note if a portion of the buffer has been removed or disturbed.)
☐A ≥ 50 feet
☐B From 30 to < 50 feet
☒C From 15 to < 30 feet
☐D From 5 to < 15 feet
☐E < 5 feet or buffer bypassed by ditches
- 7c. Tributary width. If the tributary is anastomosed, combine widths of channels/braids for a total width.
☒≤ 15-feet wide ☐ > 15-feet wide ☐ Other open water (no tributary present)
- 7d. Do roots of assessment area vegetation extend into the bank of the tributary/open water?
☒Yes ☐No
- 7e. Is stream or other open water sheltered or exposed?
☒Sheltered – adjacent open water with width < 2500 feet and no regular boat traffic.
☐Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic.

8. Wetland Width at the Assessment Area – wetland type/wetland complex condition metric (evaluate WT for all marshes and Estuarine Woody Wetland only; evaluate WC for Bottomland Hardwood Forest, Headwater Forest, and Riverine Swamp Forest only)

Check a box in each column for riverine wetlands only. Select the average width for the wetland type at the assessment area (WT) and the wetland complex at the assessment area (WC). See User Manual for WT and WC boundaries.

- | WT | WC | |
|----------------------------|---------------------------------------|-----------------------|
| ☐ A | ☒ A | ≥ 100 feet |
| ☐ B | ☐ B | From 80 to < 100 feet |
| ☐ C | ☐ C | From 50 to < 80 feet |
| ☐ D | ☐ D | From 40 to < 50 feet |
| ☐ E | ☐ E | From 30 to < 40 feet |
| ☐ F | ☐ F | From 15 to < 30 feet |
| ☐ G | ☐ G | From 5 to < 15 feet |
| ☐ H | ☐ H | < 5 feet |

9. Inundation Duration – assessment area condition metric (skip for non-riparian wetlands)

Answer for assessment area dominant landform.

- ☐A Evidence of short-duration inundation (< 7 consecutive days)
☐B Evidence of saturation, without evidence of inundation
☒C Evidence of long-duration inundation or very long-duration inundation (7 to 30 consecutive days or more)

10. Indicators of Deposition – assessment area condition metric (skip for non-riparian wetlands and all marshes)

Consider recent deposition only (no plant growth since deposition).

- ☒A Sediment deposition is not excessive, but at approximately natural levels.
☐B Sediment deposition is excessive, but not overwhelming the wetland.
☐C Sediment deposition is excessive and is overwhelming the wetland.

11. Wetland Size – wetland type/wetland complex condition metric

Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the wetland complex (WC), and the size of the forested wetland (FW) (if applicable, see User Manual). See the User Manual for boundaries of these evaluation areas. If assessment area is clear-cut, select "K" for the FW column.

- | WT | WC | FW (if applicable) |
|---------------------------------------|---------------------------------------|---|
| ☐ A | ☐ A | ☐ A ≥ 500 acres |
| ☐ B | ☒ B | ☒ B From 100 to < 500 acres |
| ☐ C | ☐ C | ☐ C From 50 to < 100 acres |
| ☐ D | ☐ D | ☐ D From 25 to < 50 acres |
| ☐ E | ☐ E | ☐ E From 10 to < 25 acres |
| ☐ F | ☐ F | ☐ F From 5 to < 10 acres |
| ☐ G | ☐ G | ☐ G From 1 to < 5 acres |
| ☐ H | ☐ H | ☐ H From 0.5 to < 1 acre |
| ☐ I | ☐ I | ☐ I From 0.1 to < 0.5 acre |
| ☒ J | ☐ J | ☐ J From 0.01 to < 0.1 acre |
| ☐ K | ☐ K | ☐ K < 0.01 acre <u>or</u> assessment area is clear-cut |

12. Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)

- ☐A Pocosin is the full extent (≥ 90%) of its natural landscape size.
☐B Pocosin type is < 90% of the full extent of its natural landscape size.

13. Connectivity to Other Natural Areas – landscape condition metric

13a. Check appropriate box(es) (a box may be checked in each column). Involves a GIS effort with field adjustment. This metric evaluates whether the wetland is well connected (Well) and/or loosely connected (Loosely) to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate). Boundaries are formed by four-lane roads, regularly maintained utility line corridors the width of a four-lane road or wider, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide.

- | Well | Loosely |
|---------------------------------------|---|
| ☒ A | ☒ A ≥ 500 acres |
| ☐ B | ☐ B From 100 to < 500 acres |
| ☐ C | ☐ C From 50 to < 100 acres |
| ☐ D | ☐ D From 10 to < 50 acres |
| ☐ E | ☐ E < 10 acres |
| ☐ F | ☐ F Wetland type has a poor or no connection to other natural habitats |

13b. Evaluate for marshes only.

- ☐Yes ☐No Wetland type has a surface hydrology connection to open waters/stream or tidal wetlands.

14. Edge Effect – wetland type condition metric (skip for all marshes and Estuarine Woody Wetland)

May involve a GIS effort with field adjustment. Estimate distance from wetland type boundary to artificial edges. Artificial edges include non-forested areas ≥ 40 feet wide such as fields, development, roads, regularly maintained utility line corridors, and clear-cuts. Consider the eight main points of the compass. Artificial edge occurs within 150 feet in how many directions? If the assessment area is clear cut, select option "C."

- ☐A 0
☒B 1 to 4
☐C 5 to 8

15. Vegetative Composition – assessment area condition metric (skip for all marshes and Pine Flat)

- ☐A Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area.
☒B Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata.
☐C Vegetation severely altered from reference in composition, or expected species are unnaturally absent (planted stands of non-characteristic species or at least one stratum inappropriately composed of a single species), or exotic species are dominant in at least one stratum.

16. Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)

- ☐A Vegetation diversity is high and is composed primarily of native species (< 10% cover of exotics).
☐B Vegetation diversity is low or has > 10% to 50% cover of exotics.
☐C Vegetation is dominated by exotic species (> 50 % cover of exotics).

17. Vegetative Structure – assessment area/wetland type condition metric

17a. Is vegetation present?

☒ Yes ☐ No If Yes, continue to 17b. If No, skip to Metric 18.

17b. Evaluate percent coverage of assessment area vegetation **for all marshes only**. Skip to 17c for non-marsh wetlands.

- ☐ A ≥ 25% coverage of vegetation
☐ B < 25% coverage of vegetation

17c. **Check a box in each column for each stratum.** Evaluate this portion of the metric **for non-marsh wetlands**. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately.

AA	WT	
Canopy ☒ A	☒ A	Canopy closed, or nearly closed, with natural gaps associated with natural processes
☐ B	☐ B	Canopy present, but opened more than natural gaps
☐ C	☐ C	Canopy sparse or absent
Mid-Story ☐ A	☐ A	Dense mid-story/sapling layer
☒ B	☒ B	Moderate density mid-story/sapling layer
☐ C	☐ C	Mid-story/sapling layer sparse or absent
Shrub ☐ A	☐ A	Dense shrub layer
☒ B	☒ B	Moderate density shrub layer
☐ C	☐ C	Shrub layer sparse or absent
Herb ☐ A	☐ A	Dense herb layer
☐ B	☐ B	Moderate density herb layer
☒ C	☒ C	Herb layer sparse or absent

18. Snags – wetland type condition metric (skip for all marshes)

- ☐ A Large snags (more than one) are visible (> 12 inches DBH, or large relative to species present and landscape stability).
☒ B Not A

19. Diameter Class Distribution – wetland type condition metric (skip for all marshes)

- ☒ A Majority of canopy trees have stems > 6 inches in diameter at breast height (DBH); many large trees (> 12 inches DBH) are present.
☐ B Majority of canopy trees have stems between 6 and 12 inches DBH, few are > 12 inch DBH.
☐ C Majority of canopy trees are < 6 inches DBH or no trees.

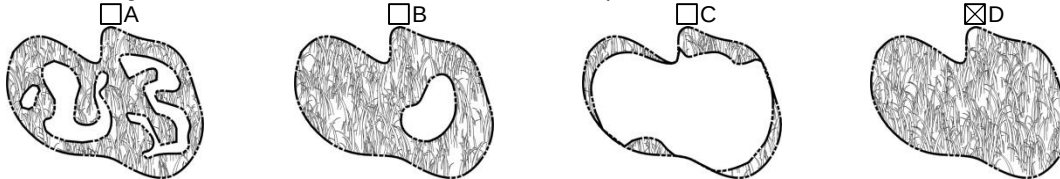
20. Large Woody Debris – wetland type condition metric (skip for all marshes)

Include both natural debris and man-placed natural debris.

- ☐ A Large logs (more than one) are visible (> 12 inches in diameter, or large relative to species present and landscape stability).
☒ B Not A

21. Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)

Select the figure that best describes the amount of interspersions between vegetation and open water in the growing season. Patterned areas indicate vegetated areas, while solid white areas indicate open water.



22. Hydrologic Connectivity – assessment area condition metric (evaluate for riparian wetlands and Salt/Brackish Marsh only)

Examples of activities that may severely alter hydrologic connectivity include intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, and stream incision. Documentation required if evaluated as B, C, or D.

- ☒ A Overbank and overland flow are not severely altered in the assessment area.
☐ B Overbank flow is severely altered in the assessment area.
☐ C Overland flow is severely altered in the assessment area.
☐ D Both overbank and overland flow are severely altered in the assessment area.

Notes

These three wetlands are disconnected from the larger Riverine Swamp Forest/Tidal Freshwater Marsh wetland complex by jurisdictional ditches. These ditches are considered "streams" in above questions.

NC WAM Wetland Rating Sheet **Accompanies User Manual Version 5.0**

Wetland Site Name WD/WE/WF Date of Assessment 04/08/2026
Wetland Type Riverine Swamp Forest Assessor Name/Organization Trevor Hall/ Three Oaks Engineers

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

Sub-function Rating Summary

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

Function Rating Summary

Function	Metrics	Rating
Hydrology	Condition	LOW
Water Quality	Condition	HIGH
	Condition/Opportunity	HIGH
	Opportunity Presence (Y/N)	YES
Habitat	Condition	HIGH

Overall Wetland Rating **HIGH**

NC WAM FIELD ASSESSMENT FORM
Accompanies User Manual Version 5.0

USACE AID #		NCDWR#	
Project Name	NCDOT STIP: HO-0027	Date of Evaluation	04/08/2026
Applicant/Owner Name	NCDOT	Wetland Site Name	WL/WM/WR
Wetland Type	Tidal Freshwater Marsh	Assessor Name/Organization	Trevor Hall/ Three Oaks Engineers
Level III Ecoregion	Middle Atlantic Coastal Plain	Nearest Named Water Body	South Lake (Alligator River)
River Basin	Pasquotank	USGS 8-Digit Catalogue Unit	03010205
County	Dare	NCDWR Region	Washington
☐ Yes ☒ No	Precipitation within 48 hrs?	Latitude/Longitude (dec-degrees)	35.875452, -75.937936

Evidence of stressors affecting the assessment area (may not be within the assessment area)

Please circle and/or make note on the last page if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past (for instance, within 10 years). Noteworthy stressors include, but are not limited to the following.

- Hydrological modifications (examples: ditches, dams, beaver dams, dikes, berms, ponds, etc.)
- Surface and sub-surface discharges into the wetland (examples: discharges containing obvious pollutants, presence of nearby septic tanks, underground storage tanks (USTs), hog lagoons, etc.)
- Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.)
- Habitat/plant community alteration (examples: mowing, clear-cutting, exotics, etc.)

Is the assessment area intensively managed? ☒ Yes ☐ No

Regulatory Considerations - Were regulatory considerations evaluated? ☒ Yes ☐ No If Yes, check all that apply to the assessment area.

- ☒ Anadromous fish
- ☒ Federally protected species or State endangered or threatened species
- ☐ NCDWR riparian buffer rule in effect
- ☐ Abuts a Primary Nursery Area (PNA)
- ☒ Publicly owned property
- ☐ N.C. Division of Coastal Management Area of Environmental Concern (AEC) (including buffer)
- ☐ Abuts a stream with a NCDWQ classification of SA or supplemental classifications of HQW, ORW, or Trout
- ☒ Designated NCNHP reference community
- ☐ Abuts a 303(d)-listed stream or a tributary to a 303(d)-listed stream

What type of natural stream is associated with the wetland, if any? (check all that apply)

- ☒ Blackwater
- ☐ Brownwater
- ☐ Tidal (if tidal, check one of the following boxes) ☐ Lunar ☐ Wind ☐ Both

Is the assessment area on a coastal island? ☐ Yes ☒ No

Is the assessment area's surface water storage capacity or duration substantially altered by beaver? ☐ Yes ☒ No

Does the assessment area experience overbank flooding during normal rainfall conditions? ☐ Yes ☒ No

1. Ground Surface Condition/Vegetation Condition – assessment area condition metric

Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation structure (VS) in the assessment area. Compare to reference wetland if applicable (see User Manual). If a reference is not applicable, then rate the assessment area based on evidence an effect.

- | | | |
|---------------------------------------|---------------------------------------|--|
| GS | VS | |
| ☐ A | ☐ A | Not severely altered |
| ☒ B | ☒ B | Severely altered over a majority of the assessment area (ground surface alteration examples: vehicle tracks, excessive sedimentation, fire-plow lanes, skidder tracks, bedding, fill, soil compaction, obvious pollutants) (vegetation structure alteration examples: mechanical disturbance, herbicides, salt intrusion [where appropriate], exotic species, grazing, less diversity [if appropriate], hydrologic alteration) |

2. Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric

Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub). Consider both increase and decrease in hydrology. A ditch ≤ 1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if applicable.

- | | | |
|---------------------------------------|---------------------------------------|--|
| Surf | Sub | |
| ☐ A | ☒ A | Water storage capacity and duration are not altered. |
| ☒ B | ☐ B | Water storage capacity or duration are altered, but not substantially (typically, not sufficient to change vegetation). |
| ☐ C | ☐ C | Water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples: draining, flooding, soil compaction, filling, excessive sedimentation, underground utility lines). |

3. Water Storage/Surface Relief – assessment area/wetland type condition metric (skip for all marshes)

Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT).

- | | | | |
|-----|----------------------------|----------------------------|---|
| | AA | WT | |
| 3a. | ☐ A | ☐ A | Majority of wetland with depressions able to pond water > 1 deep |
| | ☐ B | ☐ B | Majority of wetland with depressions able to pond water 6 inches to 1 foot deep |
| | ☐ C | ☐ C | Majority of wetland with depressions able to pond water 3 to 6 inches deep |
| | ☐ D | ☐ D | Depressions able to pond water < 3 inches deep |
| 3b. | ☐ A | | Evidence that maximum depth of inundation is greater than 2 feet |
| | ☐ B | | Evidence that maximum depth of inundation is between 1 and 2 feet |
| | ☐ C | | Evidence that maximum depth of inundation is less than 1 foot |

4. Soil Texture/Structure – assessment area condition metric (skip for all marshes)

Check a box from each of the three soil property groups below. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top 12 inches. Use most recent National Technical Committee for Hydric Soils guidance for regional indicators.

- 4a. ☐A Sandy soil
☐B Loamy or clayey soils exhibiting redoximorphic features (concentrations, depletions, or rhizospheres)
☐C Loamy or clayey soils not exhibiting redoximorphic features
☐D Loamy or clayey gleyed soil
☐E Histosol or histic epipedon
- 4b. ☐A Soil ribbon < 1 inch
☐B Soil ribbon ≥ 1 inch
- 4c. ☐A No peat or muck presence
☐B A peat or muck presence

5. Discharge into Wetland – opportunity metric

Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc.

- | Surf | Sub | |
|---------------------------------------|---------------------------------------|---|
| ☒ A | ☒ A | Little or no evidence of pollutants or discharges entering the assessment area |
| ☐ B | ☐ B | Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the treatment capacity of the assessment area |
| ☐ C | ☐ C | Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation, odor) |

6. Land Use – opportunity metric (skip for non-riparian wetlands)

Check all that apply (at least one box in each column). Evaluation involves a GIS effort with field adjustment. Consider sources draining to assessment area within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles and within the watershed draining to the assessment area (2M).

- | WS | 5M | 2M | |
|---------------------------------------|---------------------------------------|---------------------------------------|---|
| ☐ A | ☐ A | ☐ A | ≥ 10% impervious surfaces |
| ☐ B | ☐ B | ☐ B | Confined animal operations (or other local, concentrated source of pollutants) |
| ☐ C | ☐ C | ☐ C | ≥ 20% coverage of pasture |
| ☒ D | ☒ D | ☒ D | ≥ 20% coverage of agricultural land (regularly plowed land) |
| ☐ E | ☐ E | ☐ E | ≥ 20% coverage of maintained grass/herb |
| ☐ F | ☐ F | ☐ F | ≥ 20% coverage of clear-cut land |
| ☐ G | ☐ G | ☐ G | Little or no opportunity to improve water quality. Lack of opportunity may result from little or no disturbance in the watershed <u>or</u> hydrologic alterations that prevent drainage <u>and/or</u> overbank flow from affecting the assessment area. |

7. Wetland Acting as Vegetated Buffer – assessment area/wetland complex condition metric (skip for non-riparian wetlands)

- 7a. Is assessment area within 50 feet of a tributary or other open water?
☒Yes ☐No If Yes, continue to 7b. If No, skip to Metric 8.
Wetland buffer need only be present on one side of the water body. Make buffer judgment based on the average width of wetland. Record a note if a portion of the buffer has been removed or disturbed.
- 7b. How much of the first 50 feet from the bank is wetland? (Wetland buffer need only be present on one side of the water body. Make buffer judgment based on the average width of wetland. Record a note if a portion of the buffer has been removed or disturbed.)
☐A ≥ 50 feet
☐B From 30 to < 50 feet
☒C From 15 to < 30 feet
☐D From 5 to < 15 feet
☐E < 5 feet or buffer bypassed by ditches
- 7c. Tributary width. If the tributary is anastomosed, combine widths of channels/braids for a total width.
☒≤ 15-feet wide ☐ > 15-feet wide ☐ Other open water (no tributary present)
- 7d. Do roots of assessment area vegetation extend into the bank of the tributary/open water?
☒Yes ☐No
- 7e. Is stream or other open water sheltered or exposed?
☒Sheltered – adjacent open water with width < 2500 feet and no regular boat traffic.
☐Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic.

8. Wetland Width at the Assessment Area – wetland type/wetland complex condition metric (evaluate WT for all marshes and Estuarine Woody Wetland only; evaluate WC for Bottomland Hardwood Forest, Headwater Forest, and Riverine Swamp Forest only)

Check a box in each column for riverine wetlands only. Select the average width for the wetland type at the assessment area (WT) and the wetland complex at the assessment area (WC). See User Manual for WT and WC boundaries.

- | WT | WC | |
|---------------------------------------|----------------------------|-----------------------|
| ☐ A | ☐ A | ≥ 100 feet |
| ☐ B | ☐ B | From 80 to < 100 feet |
| ☐ C | ☐ C | From 50 to < 80 feet |
| ☐ D | ☐ D | From 40 to < 50 feet |
| ☐ E | ☐ E | From 30 to < 40 feet |
| ☒ F | ☐ F | From 15 to < 30 feet |
| ☐ G | ☐ G | From 5 to < 15 feet |
| ☐ H | ☐ H | < 5 feet |

9. Inundation Duration – assessment area condition metric (skip for non-riparian wetlands)

Answer for assessment area dominant landform.

- ☒A Evidence of short-duration inundation (< 7 consecutive days)
☐B Evidence of saturation, without evidence of inundation
☐C Evidence of long-duration inundation or very long-duration inundation (7 to 30 consecutive days or more)

10. Indicators of Deposition – assessment area condition metric (skip for non-riparian wetlands and all marshes)

Consider recent deposition only (no plant growth since deposition).

- ☐A Sediment deposition is not excessive, but at approximately natural levels.
☐B Sediment deposition is excessive, but not overwhelming the wetland.
☐C Sediment deposition is excessive and is overwhelming the wetland.

11. Wetland Size – wetland type/wetland complex condition metric

Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the wetland complex (WC), and the size of the forested wetland (FW) (if applicable, see User Manual). See the User Manual for boundaries of these evaluation areas. If assessment area is clear-cut, select "K" for the FW column.

- | WT | WC | FW (if applicable) |
|---------------------------------------|---------------------------------------|---|
| ☐ A | ☒ A | ☒ A ≥ 500 acres |
| ☐ B | ☐ B | ☐ B From 100 to < 500 acres |
| ☐ C | ☐ C | ☐ C From 50 to < 100 acres |
| ☐ D | ☐ D | ☐ D From 25 to < 50 acres |
| ☐ E | ☐ E | ☐ E From 10 to < 25 acres |
| ☐ F | ☐ F | ☐ F From 5 to < 10 acres |
| ☐ G | ☐ G | ☐ G From 1 to < 5 acres |
| ☐ H | ☐ H | ☐ H From 0.5 to < 1 acre |
| ☒ I | ☐ I | ☐ I From 0.1 to < 0.5 acre |
| ☐ J | ☐ J | ☐ J From 0.01 to < 0.1 acre |
| ☐ K | ☐ K | ☐ K < 0.01 acre <u>or</u> assessment area is clear-cut |

12. Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)

- ☐A Pocosin is the full extent (≥ 90%) of its natural landscape size.
☐B Pocosin type is < 90% of the full extent of its natural landscape size.

13. Connectivity to Other Natural Areas – landscape condition metric

13a. Check appropriate box(es) (a box may be checked in each column). Involves a GIS effort with field adjustment. This metric evaluates whether the wetland is well connected (Well) and/or loosely connected (Loosely) to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate). Boundaries are formed by four-lane roads, regularly maintained utility line corridors the width of a four-lane road or wider, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide.

- | Well | Loosely |
|---------------------------------------|---|
| ☐ A | ☒ A ≥ 500 acres |
| ☒ B | ☐ B From 100 to < 500 acres |
| ☐ C | ☐ C From 50 to < 100 acres |
| ☐ D | ☐ D From 10 to < 50 acres |
| ☐ E | ☐ E < 10 acres |
| ☐ F | ☐ F Wetland type has a poor or no connection to other natural habitats |

13b. Evaluate for marshes only.

- ☒Yes ☐No Wetland type has a surface hydrology connection to open waters/stream or tidal wetlands.

14. Edge Effect – wetland type condition metric (skip for all marshes and Estuarine Woody Wetland)

May involve a GIS effort with field adjustment. Estimate distance from wetland type boundary to artificial edges. Artificial edges include non-forested areas ≥ 40 feet wide such as fields, development, roads, regularly maintained utility line corridors, and clear-cuts. Consider the eight main points of the compass. Artificial edge occurs within 150 feet in how many directions? If the assessment area is clear cut, select option "C."

- ☐A 0
☐B 1 to 4
☐C 5 to 8

15. Vegetative Composition – assessment area condition metric (skip for all marshes and Pine Flat)

- ☐A Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area.
☐B Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata.
☐C Vegetation severely altered from reference in composition, or expected species are unnaturally absent (planted stands of non-characteristic species or at least one stratum inappropriately composed of a single species), or exotic species are dominant in at least one stratum.

16. Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)

- ☐A Vegetation diversity is high and is composed primarily of native species (< 10% cover of exotics).
☐B Vegetation diversity is low or has > 10% to 50% cover of exotics.
☐C Vegetation is dominated by exotic species (> 50 % cover of exotics).

17. Vegetative Structure – assessment area/wetland type condition metric

17a. Is vegetation present?

☒ Yes ☐ No If Yes, continue to 17b. If No, skip to Metric 18.

17b. Evaluate percent coverage of assessment area vegetation **for all marshes only**. Skip to 17c for non-marsh wetlands.

☒ A ≥ 25% coverage of vegetation
☐ B < 25% coverage of vegetation

17c. **Check a box in each column for each stratum.** Evaluate this portion of the metric **for non-marsh wetlands**. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately.

AA	WT	
Canopy ☐ A	☐ A	Canopy closed, or nearly closed, with natural gaps associated with natural processes
☐ B	☐ B	Canopy present, but opened more than natural gaps
☐ C	☐ C	Canopy sparse or absent
Mid-Story ☐ A	☐ A	Dense mid-story/sapling layer
☐ B	☐ B	Moderate density mid-story/sapling layer
☐ C	☐ C	Mid-story/sapling layer sparse or absent
Shrub ☐ A	☐ A	Dense shrub layer
☐ B	☐ B	Moderate density shrub layer
☐ C	☐ C	Shrub layer sparse or absent
Herb ☐ A	☐ A	Dense herb layer
☐ B	☐ B	Moderate density herb layer
☐ C	☐ C	Herb layer sparse or absent

18. Snags – wetland type condition metric (skip for all marshes)

☐ A Large snags (more than one) are visible (> 12 inches DBH, or large relative to species present and landscape stability).
☐ B Not A

19. Diameter Class Distribution – wetland type condition metric (skip for all marshes)

☐ A Majority of canopy trees have stems > 6 inches in diameter at breast height (DBH); many large trees (> 12 inches DBH) are present.
☐ B Majority of canopy trees have stems between 6 and 12 inches DBH, few are > 12 inch DBH.
☐ C Majority of canopy trees are < 6 inches DBH or no trees.

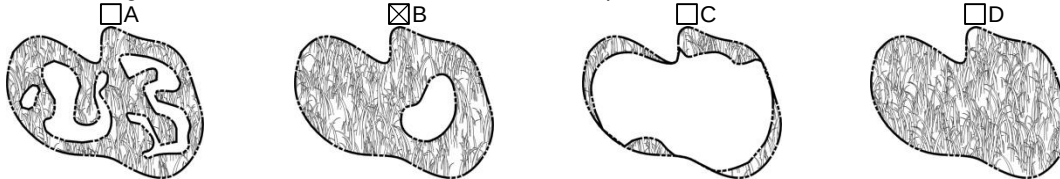
20. Large Woody Debris – wetland type condition metric (skip for all marshes)

Include both natural debris and man-placed natural debris.

☐ A Large logs (more than one) are visible (> 12 inches in diameter, or large relative to species present and landscape stability).
☐ B Not A

21. Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)

Select the figure that best describes the amount of interspersions between vegetation and open water in the growing season. Patterned areas indicate vegetated areas, while solid white areas indicate open water.



22. Hydrologic Connectivity – assessment area condition metric (evaluate for riparian wetlands and Salt/Brackish Marsh only)

Examples of activities that may severely alter hydrologic connectivity include intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, and stream incision. Documentation required if evaluated as B, C, or D.

☒ A Overbank and overland flow are not severely altered in the assessment area.
☐ B Overbank flow is severely altered in the assessment area.
☐ C Overland flow is severely altered in the assessment area.
☐ D Both overbank and overland flow are severely altered in the assessment area.

Notes

These wetlands abut jurisdictional ditches on one side, and an elevated maintained dirt road on the other side. These roads are mowed, including some vegetation in the wetlands.

NC WAM Wetland Rating Sheet

Accompanies User Manual Version 5.0

Wetland Site Name WL/WM/WR Date of Assessment 04/08/2026
Wetland Type Tidal Freshwater Marsh Assessor Name/Organization Trevor Hall/ Three Oaks Engineers

Notes on Field Assessment Form (Y/N) YES
Presence of regulatory considerations (Y/N) YES
Wetland is intensively managed (Y/N) YES
Assessment area is located within 50 feet of a natural tributary or other open water (Y/N) YES
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	NA
		Condition/Opportunity	NA
		Opportunity Presence (Y/N)	NA
Habitat	Physical Structure	Condition	NA
	Landscape Patch Structure	Condition	NA
	Vegetation Composition	Condition	NA

Function Rating Summary

Function	Metrics	Rating
Hydrology	Condition	MEDIUM
Water Quality	Condition	MEDIUM
	Condition/Opportunity	MEDIUM
	Opportunity Presence (Y/N)	YES
Habitat	Condition	LOW

Overall Wetland Rating MEDIUM

NC WAM FIELD ASSESSMENT FORM
Accompanies User Manual Version 5.0

USACE AID #		NCDWR#	
Project Name	NCDOT STIP: HO-0027	Date of Evaluation	04/08/2026
Applicant/Owner Name	NCDOT	Wetland Site Name	WN/WO/WQ
Wetland Type	Tidal Freshwater Marsh	Assessor Name/Organization	Trevor Hall/ Three Oaks Engineers
Level III Ecoregion	Middle Atlantic Coastal Plain	Nearest Named Water Body	South Lake (Alligator River)
River Basin	Pasquotank	USGS 8-Digit Catalogue Unit	03010205
County	Dare	NCDWR Region	Washington
☐ Yes ☒ No	Precipitation within 48 hrs?	Latitude/Longitude (dec-degrees)	35.875280, -75.938142

Evidence of stressors affecting the assessment area (may not be within the assessment area)

Please circle and/or make note on the last page if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past (for instance, within 10 years). Noteworthy stressors include, but are not limited to the following.

- Hydrological modifications (examples: ditches, dams, beaver dams, dikes, berms, ponds, etc.)
- Surface and sub-surface discharges into the wetland (examples: discharges containing obvious pollutants, presence of nearby septic tanks, underground storage tanks (USTs), hog lagoons, etc.)
- Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.)
- Habitat/plant community alteration (examples: mowing, clear-cutting, exotics, etc.)

Is the assessment area intensively managed? ☒ Yes ☐ No

Regulatory Considerations - Were regulatory considerations evaluated? ☒ Yes ☐ No If Yes, check all that apply to the assessment area.

- ☒ Anadromous fish
- ☒ Federally protected species or State endangered or threatened species
- ☐ NCDWR riparian buffer rule in effect
- ☐ Abuts a Primary Nursery Area (PNA)
- ☒ Publicly owned property
- ☐ N.C. Division of Coastal Management Area of Environmental Concern (AEC) (including buffer)
- ☐ Abuts a stream with a NCDWQ classification of SA or supplemental classifications of HQW, ORW, or Trout
- ☒ Designated NCNHP reference community
- ☐ Abuts a 303(d)-listed stream or a tributary to a 303(d)-listed stream

What type of natural stream is associated with the wetland, if any? (check all that apply)

- ☒ Blackwater
- ☐ Brownwater
- ☐ Tidal (if tidal, check one of the following boxes) ☐ Lunar ☐ Wind ☐ Both

Is the assessment area on a coastal island? ☐ Yes ☒ No

Is the assessment area's surface water storage capacity or duration substantially altered by beaver? ☐ Yes ☒ No

Does the assessment area experience overbank flooding during normal rainfall conditions? ☐ Yes ☒ No

1. Ground Surface Condition/Vegetation Condition – assessment area condition metric

Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation structure (VS) in the assessment area. Compare to reference wetland if applicable (see User Manual). If a reference is not applicable, then rate the assessment area based on evidence an effect.

- | | | |
|---------------------------------------|---------------------------------------|--|
| GS | VS | |
| ☐ A | ☐ A | Not severely altered |
| ☒ B | ☒ B | Severely altered over a majority of the assessment area (ground surface alteration examples: vehicle tracks, excessive sedimentation, fire-plow lanes, skidder tracks, bedding, fill, soil compaction, obvious pollutants) (vegetation structure alteration examples: mechanical disturbance, herbicides, salt intrusion [where appropriate], exotic species, grazing, less diversity [if appropriate], hydrologic alteration) |

2. Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric

Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub). Consider both increase and decrease in hydrology. A ditch ≤ 1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if applicable.

- | | | |
|---------------------------------------|---------------------------------------|--|
| Surf | Sub | |
| ☐ A | ☐ A | Water storage capacity and duration are not altered. |
| ☐ B | ☒ B | Water storage capacity or duration are altered, but not substantially (typically, not sufficient to change vegetation). |
| ☒ C | ☐ C | Water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples: draining, flooding, soil compaction, filling, excessive sedimentation, underground utility lines). |

3. Water Storage/Surface Relief – assessment area/wetland type condition metric (skip for all marshes)

Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT).

- | | | | |
|-----|----------------------------|----------------------------|---|
| | AA | WT | |
| 3a. | ☐ A | ☐ A | Majority of wetland with depressions able to pond water > 1 deep |
| | ☐ B | ☐ B | Majority of wetland with depressions able to pond water 6 inches to 1 foot deep |
| | ☐ C | ☐ C | Majority of wetland with depressions able to pond water 3 to 6 inches deep |
| | ☐ D | ☐ D | Depressions able to pond water < 3 inches deep |
| 3b. | ☐ A | | Evidence that maximum depth of inundation is greater than 2 feet |
| | ☐ B | | Evidence that maximum depth of inundation is between 1 and 2 feet |
| | ☐ C | | Evidence that maximum depth of inundation is less than 1 foot |

4. Soil Texture/Structure – assessment area condition metric (skip for all marshes)

Check a box from each of the three soil property groups below. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top 12 inches. Use most recent National Technical Committee for Hydric Soils guidance for regional indicators.

- 4a. ☐A Sandy soil
☐B Loamy or clayey soils exhibiting redoximorphic features (concentrations, depletions, or rhizospheres)
☐C Loamy or clayey soils not exhibiting redoximorphic features
☐D Loamy or clayey gleyed soil
☐E Histosol or histic epipedon
- 4b. ☐A Soil ribbon < 1 inch
☐B Soil ribbon ≥ 1 inch
- 4c. ☐A No peat or muck presence
☐B A peat or muck presence

5. Discharge into Wetland – opportunity metric

Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc.

- | Surf | Sub | |
|---------------------------------------|---------------------------------------|---|
| ☒ A | ☒ A | Little or no evidence of pollutants or discharges entering the assessment area |
| ☐ B | ☐ B | Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the treatment capacity of the assessment area |
| ☐ C | ☐ C | Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation, odor) |

6. Land Use – opportunity metric (skip for non-riparian wetlands)

Check all that apply (at least one box in each column). Evaluation involves a GIS effort with field adjustment. Consider sources draining to assessment area within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles and within the watershed draining to the assessment area (2M).

- | WS | 5M | 2M | |
|---------------------------------------|---------------------------------------|---------------------------------------|---|
| ☐ A | ☐ A | ☐ A | ≥ 10% impervious surfaces |
| ☐ B | ☐ B | ☐ B | Confined animal operations (or other local, concentrated source of pollutants) |
| ☐ C | ☐ C | ☐ C | ≥ 20% coverage of pasture |
| ☒ D | ☒ D | ☒ D | ≥ 20% coverage of agricultural land (regularly plowed land) |
| ☐ E | ☐ E | ☐ E | ≥ 20% coverage of maintained grass/herb |
| ☐ F | ☐ F | ☐ F | ≥ 20% coverage of clear-cut land |
| ☐ G | ☐ G | ☐ G | Little or no opportunity to improve water quality. Lack of opportunity may result from little or no disturbance in the watershed <u>or</u> hydrologic alterations that prevent drainage <u>and/or</u> overbank flow from affecting the assessment area. |

7. Wetland Acting as Vegetated Buffer – assessment area/wetland complex condition metric (skip for non-riparian wetlands)

- 7a. Is assessment area within 50 feet of a tributary or other open water?
☒Yes ☐No If Yes, continue to 7b. If No, skip to Metric 8.
Wetland buffer need only be present on one side of the water body. Make buffer judgment based on the average width of wetland. Record a note if a portion of the buffer has been removed or disturbed.
- 7b. How much of the first 50 feet from the bank is wetland? (Wetland buffer need only be present on one side of the water body. Make buffer judgment based on the average width of wetland. Record a note if a portion of the buffer has been removed or disturbed.)
☐A ≥ 50 feet
☐B From 30 to < 50 feet
☒C From 15 to < 30 feet
☐D From 5 to < 15 feet
☐E < 5 feet or buffer bypassed by ditches
- 7c. Tributary width. If the tributary is anastomosed, combine widths of channels/braids for a total width.
☒≤ 15-feet wide ☐ > 15-feet wide ☐ Other open water (no tributary present)
- 7d. Do roots of assessment area vegetation extend into the bank of the tributary/open water?
☒Yes ☐No
- 7e. Is stream or other open water sheltered or exposed?
☒Sheltered – adjacent open water with width < 2500 feet and no regular boat traffic.
☐Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic.

8. Wetland Width at the Assessment Area – wetland type/wetland complex condition metric (evaluate WT for all marshes and Estuarine Woody Wetland only; evaluate WC for Bottomland Hardwood Forest, Headwater Forest, and Riverine Swamp Forest only)

Check a box in each column for riverine wetlands only. Select the average width for the wetland type at the assessment area (WT) and the wetland complex at the assessment area (WC). See User Manual for WT and WC boundaries.

- | WT | WC | |
|---------------------------------------|----------------------------|-----------------------|
| ☐ A | ☐ A | ≥ 100 feet |
| ☐ B | ☐ B | From 80 to < 100 feet |
| ☐ C | ☐ C | From 50 to < 80 feet |
| ☐ D | ☐ D | From 40 to < 50 feet |
| ☐ E | ☐ E | From 30 to < 40 feet |
| ☒ F | ☐ F | From 15 to < 30 feet |
| ☐ G | ☐ G | From 5 to < 15 feet |
| ☐ H | ☐ H | < 5 feet |

9. Inundation Duration – assessment area condition metric (skip for non-riparian wetlands)

Answer for assessment area dominant landform.

- ☐A Evidence of short-duration inundation (< 7 consecutive days)
☐B Evidence of saturation, without evidence of inundation
☒C Evidence of long-duration inundation or very long-duration inundation (7 to 30 consecutive days or more)

10. Indicators of Deposition – assessment area condition metric (skip for non-riparian wetlands and all marshes)

Consider recent deposition only (no plant growth since deposition).

- ☐A Sediment deposition is not excessive, but at approximately natural levels.
☐B Sediment deposition is excessive, but not overwhelming the wetland.
☐C Sediment deposition is excessive and is overwhelming the wetland.

11. Wetland Size – wetland type/wetland complex condition metric

Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the wetland complex (WC), and the size of the forested wetland (FW) (if applicable, see User Manual). See the User Manual for boundaries of these evaluation areas. If assessment area is clear-cut, select "K" for the FW column.

- | WT | WC | FW (if applicable) |
|---------------------------------------|---------------------------------------|--|
| ☐ A | ☐ A | ☐ A ≥ 500 acres |
| ☐ B | ☐ B | ☐ B From 100 to < 500 acres |
| ☐ C | ☐ C | ☐ C From 50 to < 100 acres |
| ☐ D | ☒ D | ☐ D From 25 to < 50 acres |
| ☐ E | ☐ E | ☐ E From 10 to < 25 acres |
| ☐ F | ☐ F | ☐ F From 5 to < 10 acres |
| ☐ G | ☐ G | ☐ G From 1 to < 5 acres |
| ☐ H | ☐ H | ☐ H From 0.5 to < 1 acre |
| ☐ I | ☐ I | ☐ I From 0.1 to < 0.5 acre |
| ☐ J | ☐ J | ☐ J From 0.01 to < 0.1 acre |
| ☒ K | ☐ K | ☒ K < 0.01 acre <u>or</u> assessment area is clear-cut |

12. Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)

- ☐A Pocosin is the full extent (≥ 90%) of its natural landscape size.
☐B Pocosin type is < 90% of the full extent of its natural landscape size.

13. Connectivity to Other Natural Areas – landscape condition metric

13a. Check appropriate box(es) (a box may be checked in each column). Involves a GIS effort with field adjustment. This metric evaluates whether the wetland is well connected (Well) and/or loosely connected (Loosely) to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate). Boundaries are formed by four-lane roads, regularly maintained utility line corridors the width of a four-lane road or wider, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide.

- | Well | Loosely |
|---------------------------------------|---|
| ☐ A | ☒ A ≥ 500 acres |
| ☐ B | ☐ B From 100 to < 500 acres |
| ☐ C | ☐ C From 50 to < 100 acres |
| ☐ D | ☐ D From 10 to < 50 acres |
| ☒ E | ☐ E < 10 acres |
| ☐ F | ☐ F Wetland type has a poor or no connection to other natural habitats |

13b. Evaluate for marshes only.

- ☐Yes ☒No Wetland type has a surface hydrology connection to open waters/stream or tidal wetlands.

14. Edge Effect – wetland type condition metric (skip for all marshes and Estuarine Woody Wetland)

May involve a GIS effort with field adjustment. Estimate distance from wetland type boundary to artificial edges. Artificial edges include non-forested areas ≥ 40 feet wide such as fields, development, roads, regularly maintained utility line corridors, and clear-cuts. Consider the eight main points of the compass. Artificial edge occurs within 150 feet in how many directions? If the assessment area is clear cut, select option "C."

- ☐A 0
☐B 1 to 4
☐C 5 to 8

15. Vegetative Composition – assessment area condition metric (skip for all marshes and Pine Flat)

- ☐A Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area.
☐B Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata.
☐C Vegetation severely altered from reference in composition, or expected species are unnaturally absent (planted stands of non-characteristic species or at least one stratum inappropriately composed of a single species), or exotic species are dominant in at least one stratum.

16. Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)

- ☐A Vegetation diversity is high and is composed primarily of native species (< 10% cover of exotics).
☐B Vegetation diversity is low or has > 10% to 50% cover of exotics.
☐C Vegetation is dominated by exotic species (> 50 % cover of exotics).

17. Vegetative Structure – assessment area/wetland type condition metric

17a. Is vegetation present?

☒ Yes ☐ No If Yes, continue to 17b. If No, skip to Metric 18.

17b. Evaluate percent coverage of assessment area vegetation **for all marshes only**. Skip to 17c for non-marsh wetlands.

☒ A ≥ 25% coverage of vegetation
☐ B < 25% coverage of vegetation

17c. **Check a box in each column for each stratum.** Evaluate this portion of the metric **for non-marsh wetlands**. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately.

AA	WT	
Canopy ☐ A	☐ A	Canopy closed, or nearly closed, with natural gaps associated with natural processes
☐ B	☐ B	Canopy present, but opened more than natural gaps
☐ C	☐ C	Canopy sparse or absent
Mid-Story ☐ A	☐ A	Dense mid-story/sapling layer
☐ B	☐ B	Moderate density mid-story/sapling layer
☐ C	☐ C	Mid-story/sapling layer sparse or absent
Shrub ☐ A	☐ A	Dense shrub layer
☐ B	☐ B	Moderate density shrub layer
☐ C	☐ C	Shrub layer sparse or absent
Herb ☐ A	☐ A	Dense herb layer
☐ B	☐ B	Moderate density herb layer
☐ C	☐ C	Herb layer sparse or absent

18. Snags – wetland type condition metric (skip for all marshes)

☐ A Large snags (more than one) are visible (> 12 inches DBH, or large relative to species present and landscape stability).
☐ B Not A

19. Diameter Class Distribution – wetland type condition metric (skip for all marshes)

☐ A Majority of canopy trees have stems > 6 inches in diameter at breast height (DBH); many large trees (> 12 inches DBH) are present.
☐ B Majority of canopy trees have stems between 6 and 12 inches DBH, few are > 12 inch DBH.
☐ C Majority of canopy trees are < 6 inches DBH or no trees.

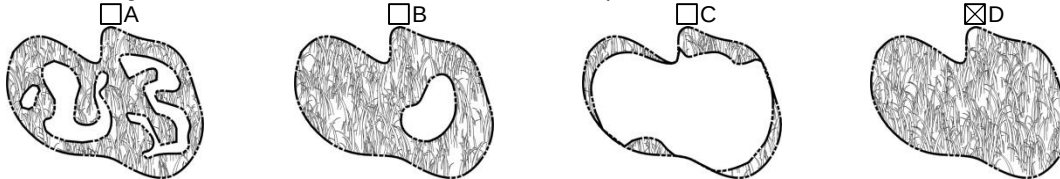
20. Large Woody Debris – wetland type condition metric (skip for all marshes)

Include both natural debris and man-placed natural debris.

☐ A Large logs (more than one) are visible (> 12 inches in diameter, or large relative to species present and landscape stability).
☐ B Not A

21. Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)

Select the figure that best describes the amount of interspersions between vegetation and open water in the growing season. Patterned areas indicate vegetated areas, while solid white areas indicate open water.



22. Hydrologic Connectivity – assessment area condition metric (evaluate for riparian wetlands and Salt/Brackish Marsh only)

Examples of activities that may severely alter hydrologic connectivity include intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, and stream incision. Documentation required if evaluated as B, C, or D.

☐ A Overbank and overland flow are not severely altered in the assessment area.
☒ B Overbank flow is severely altered in the assessment area.
☐ C Overland flow is severely altered in the assessment area.
☐ D Both overbank and overland flow are severely altered in the assessment area.

Notes

These wetlands are within the maintained fields of the wildlife refuge. Berms with dirt roads are between the wetlands and the jurisdictional ditches.

NC WAM Wetland Rating Sheet **Accompanies User Manual Version 5.0**

Wetland Site Name WN/WO/WQ Date of Assessment 04/08/2026
Wetland Type Tidal Freshwater Marsh Assessor Name/Organization Trevor Hall/ Three Oaks Engineers

Notes on Field Assessment Form (Y/N) YES
Presence of regulatory considerations (Y/N) YES
Wetland is intensively managed (Y/N) YES
Assessment area is located within 50 feet of a natural tributary or other open water (Y/N) YES
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	NA
		Condition/Opportunity	NA
		Opportunity Presence (Y/N)	NA
Habitat	Physical Structure	Condition	NA
	Landscape Patch Structure	Condition	NA
	Vegetation Composition	Condition	NA

Function Rating Summary

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

Overall Wetland Rating LOW

NC WAM FIELD ASSESSMENT FORM
Accompanies User Manual Version 5.0

USACE AID #		NCDWR#	
Project Name	NCDOT STIP: HO-0027	Date of Evaluation	04/15/2026
Applicant/Owner Name	NCDOT	Wetland Site Name	WS/WT/WU
Wetland Type	Riverine Swamp Forest	Assessor Name/Organization	Trevor Hall/ Three Oaks Engineers
Level III Ecoregion	Middle Atlantic Coastal Plain	Nearest Named Water Body	South Lake (Alligator River)
River Basin	Pasquotank	USGS 8-Digit Catalogue Unit	03010205
County	Dare	NCDWR Region	Washington
☐ Yes ☒ No	Precipitation within 48 hrs?	Latitude/Longitude (dec-degrees)	35.866524, -75.918847

Evidence of stressors affecting the assessment area (may not be within the assessment area)

Please circle and/or make note on the last page if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past (for instance, within 10 years). Noteworthy stressors include, but are not limited to the following.

- Hydrological modifications (examples: ditches, dams, beaver dams, dikes, berms, ponds, etc.)
- Surface and sub-surface discharges into the wetland (examples: discharges containing obvious pollutants, presence of nearby septic tanks, underground storage tanks (USTs), hog lagoons, etc.)
- Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.)
- Habitat/plant community alteration (examples: mowing, clear-cutting, exotics, etc.)

Is the assessment area intensively managed? ☐ Yes ☒ No

Regulatory Considerations - Were regulatory considerations evaluated? ☒ Yes ☐ No If Yes, check all that apply to the assessment area.

- ☒ Anadromous fish
- ☒ Federally protected species or State endangered or threatened species
- ☐ NCDWR riparian buffer rule in effect
- ☐ Abuts a Primary Nursery Area (PNA)
- ☒ Publicly owned property
- ☐ N.C. Division of Coastal Management Area of Environmental Concern (AEC) (including buffer)
- ☐ Abuts a stream with a NCDWQ classification of SA or supplemental classifications of HQW, ORW, or Trout
- ☒ Designated NCNHP reference community
- ☐ Abuts a 303(d)-listed stream or a tributary to a 303(d)-listed stream

What type of natural stream is associated with the wetland, if any? (check all that apply)

- ☒ Blackwater
- ☐ Brownwater
- ☐ Tidal (if tidal, check one of the following boxes) ☐ Lunar ☐ Wind ☐ Both

Is the assessment area on a coastal island? ☐ Yes ☒ No

Is the assessment area's surface water storage capacity or duration substantially altered by beaver? ☐ Yes ☒ No

Does the assessment area experience overbank flooding during normal rainfall conditions? ☐ Yes ☒ No

1. Ground Surface Condition/Vegetation Condition – assessment area condition metric

Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation structure (VS) in the assessment area. Compare to reference wetland if applicable (see User Manual). If a reference is not applicable, then rate the assessment area based on evidence an effect.

- | | | |
|---------------------------------------|---------------------------------------|--|
| GS | VS | |
| ☒ A | ☒ A | Not severely altered |
| ☐ B | ☐ B | Severely altered over a majority of the assessment area (ground surface alteration examples: vehicle tracks, excessive sedimentation, fire-plow lanes, skidder tracks, bedding, fill, soil compaction, obvious pollutants) (vegetation structure alteration examples: mechanical disturbance, herbicides, salt intrusion [where appropriate], exotic species, grazing, less diversity [if appropriate], hydrologic alteration) |

2. Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric

Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub). Consider both increase and decrease in hydrology. A ditch ≤ 1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if applicable.

- | | | |
|---------------------------------------|---------------------------------------|--|
| Surf | Sub | |
| ☐ A | ☐ A | Water storage capacity and duration are not altered. |
| ☐ B | ☒ B | Water storage capacity or duration are altered, but not substantially (typically, not sufficient to change vegetation). |
| ☒ C | ☐ C | Water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples: draining, flooding, soil compaction, filling, excessive sedimentation, underground utility lines). |

3. Water Storage/Surface Relief – assessment area/wetland type condition metric (skip for all marshes)

Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT).

- | | | |
|---|---------------------------------------|---|
| AA | WT | |
| 3a. ☒ A | ☒ A | Majority of wetland with depressions able to pond water > 1 deep |
| ☐ B | ☐ B | Majority of wetland with depressions able to pond water 6 inches to 1 foot deep |
| ☐ C | ☐ C | Majority of wetland with depressions able to pond water 3 to 6 inches deep |
| ☐ D | ☐ D | Depressions able to pond water < 3 inches deep |
| 3b. ☒ A | | Evidence that maximum depth of inundation is greater than 2 feet |
| ☐ B | | Evidence that maximum depth of inundation is between 1 and 2 feet |
| ☐ C | | Evidence that maximum depth of inundation is less than 1 foot |

4. Soil Texture/Structure – assessment area condition metric (skip for all marshes)

Check a box from each of the three soil property groups below. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top 12 inches. Use most recent National Technical Committee for Hydric Soils guidance for regional indicators.

- 4a. ☐A Sandy soil
☐B Loamy or clayey soils exhibiting redoximorphic features (concentrations, depletions, or rhizospheres)
☒C Loamy or clayey soils not exhibiting redoximorphic features
☐D Loamy or clayey gleyed soil
☐E Histosol or histic epipedon
- 4b. ☐A Soil ribbon < 1 inch
☒B Soil ribbon ≥ 1 inch
- 4c. ☐A No peat or muck presence
☒B A peat or muck presence

5. Discharge into Wetland – opportunity metric

Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc.

- | Surf | Sub | |
|---------------------------------------|---------------------------------------|---|
| ☒ A | ☒ A | Little or no evidence of pollutants or discharges entering the assessment area |
| ☐ B | ☐ B | Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the treatment capacity of the assessment area |
| ☐ C | ☐ C | Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation, odor) |

6. Land Use – opportunity metric (skip for non-riparian wetlands)

Check all that apply (at least one box in each column). Evaluation involves a GIS effort with field adjustment. Consider sources draining to assessment area within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles and within the watershed draining to the assessment area (2M).

- | WS | 5M | 2M | |
|---------------------------------------|---------------------------------------|---------------------------------------|---|
| ☐ A | ☐ A | ☐ A | ≥ 10% impervious surfaces |
| ☐ B | ☐ B | ☐ B | Confined animal operations (or other local, concentrated source of pollutants) |
| ☐ C | ☐ C | ☐ C | ≥ 20% coverage of pasture |
| ☒ D | ☒ D | ☒ D | ≥ 20% coverage of agricultural land (regularly plowed land) |
| ☐ E | ☐ E | ☐ E | ≥ 20% coverage of maintained grass/herb |
| ☐ F | ☐ F | ☐ F | ≥ 20% coverage of clear-cut land |
| ☐ G | ☐ G | ☐ G | Little or no opportunity to improve water quality. Lack of opportunity may result from little or no disturbance in the watershed <u>or</u> hydrologic alterations that prevent drainage <u>and/or</u> overbank flow from affecting the assessment area. |

7. Wetland Acting as Vegetated Buffer – assessment area/wetland complex condition metric (skip for non-riparian wetlands)

- 7a. Is assessment area within 50 feet of a tributary or other open water?
☒Yes ☐No If Yes, continue to 7b. If No, skip to Metric 8.
Wetland buffer need only be present on one side of the water body. Make buffer judgment based on the average width of wetland. Record a note if a portion of the buffer has been removed or disturbed.
- 7b. How much of the first 50 feet from the bank is wetland? (Wetland buffer need only be present on one side of the water body. Make buffer judgment based on the average width of wetland. Record a note if a portion of the buffer has been removed or disturbed.)
☒A ≥ 50 feet
☐B From 30 to < 50 feet
☐C From 15 to < 30 feet
☐D From 5 to < 15 feet
☐E < 5 feet or buffer bypassed by ditches
- 7c. Tributary width. If the tributary is anastomosed, combine widths of channels/braids for a total width.
☒≤ 15-feet wide ☐ > 15-feet wide ☐ Other open water (no tributary present)
- 7d. Do roots of assessment area vegetation extend into the bank of the tributary/open water?
☒Yes ☐No
- 7e. Is stream or other open water sheltered or exposed?
☒Sheltered – adjacent open water with width < 2500 feet and no regular boat traffic.
☐Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic.

8. Wetland Width at the Assessment Area – wetland type/wetland complex condition metric (evaluate WT for all marshes and Estuarine Woody Wetland only; evaluate WC for Bottomland Hardwood Forest, Headwater Forest, and Riverine Swamp Forest only)

Check a box in each column for riverine wetlands only. Select the average width for the wetland type at the assessment area (WT) and the wetland complex at the assessment area (WC). See User Manual for WT and WC boundaries.

- | WT | WC | |
|----------------------------|---------------------------------------|-----------------------|
| ☐ A | ☒ A | ≥ 100 feet |
| ☐ B | ☐ B | From 80 to < 100 feet |
| ☐ C | ☐ C | From 50 to < 80 feet |
| ☐ D | ☐ D | From 40 to < 50 feet |
| ☐ E | ☐ E | From 30 to < 40 feet |
| ☐ F | ☐ F | From 15 to < 30 feet |
| ☐ G | ☐ G | From 5 to < 15 feet |
| ☐ H | ☐ H | < 5 feet |

9. Inundation Duration – assessment area condition metric (skip for non-riparian wetlands)

Answer for assessment area dominant landform.

- ☐A Evidence of short-duration inundation (< 7 consecutive days)
☐B Evidence of saturation, without evidence of inundation
☒C Evidence of long-duration inundation or very long-duration inundation (7 to 30 consecutive days or more)

10. Indicators of Deposition – assessment area condition metric (skip for non-riparian wetlands and all marshes)

Consider recent deposition only (no plant growth since deposition).

- ☒A Sediment deposition is not excessive, but at approximately natural levels.
☐B Sediment deposition is excessive, but not overwhelming the wetland.
☐C Sediment deposition is excessive and is overwhelming the wetland.

11. Wetland Size – wetland type/wetland complex condition metric

Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the wetland complex (WC), and the size of the forested wetland (FW) (if applicable, see User Manual). See the User Manual for boundaries of these evaluation areas. If assessment area is clear-cut, select "K" for the FW column.

- | WT | WC | FW (if applicable) |
|---------------------------------------|---------------------------------------|---|
| ☐ A | ☐ A | ☐ A ≥ 500 acres |
| ☒ B | ☒ B | ☒ B From 100 to < 500 acres |
| ☐ C | ☐ C | ☐ C From 50 to < 100 acres |
| ☐ D | ☐ D | ☐ D From 25 to < 50 acres |
| ☐ E | ☐ E | ☐ E From 10 to < 25 acres |
| ☐ F | ☐ F | ☐ F From 5 to < 10 acres |
| ☐ G | ☐ G | ☐ G From 1 to < 5 acres |
| ☐ H | ☐ H | ☐ H From 0.5 to < 1 acre |
| ☐ I | ☐ I | ☐ I From 0.1 to < 0.5 acre |
| ☐ J | ☐ J | ☐ J From 0.01 to < 0.1 acre |
| ☐ K | ☐ K | ☐ K < 0.01 acre <u>or</u> assessment area is clear-cut |

12. Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)

- ☐A Pocosin is the full extent (≥ 90%) of its natural landscape size.
☐B Pocosin type is < 90% of the full extent of its natural landscape size.

13. Connectivity to Other Natural Areas – landscape condition metric

13a. Check appropriate box(es) (a box may be checked in each column). Involves a GIS effort with field adjustment. This metric evaluates whether the wetland is well connected (Well) and/or loosely connected (Loosely) to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate). Boundaries are formed by four-lane roads, regularly maintained utility line corridors the width of a four-lane road or wider, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide.

- | Well | Loosely |
|---------------------------------------|---|
| ☒ A | ☒ A ≥ 500 acres |
| ☐ B | ☐ B From 100 to < 500 acres |
| ☐ C | ☐ C From 50 to < 100 acres |
| ☐ D | ☐ D From 10 to < 50 acres |
| ☐ E | ☐ E < 10 acres |
| ☐ F | ☐ F Wetland type has a poor or no connection to other natural habitats |

13b. Evaluate for marshes only.

- ☐Yes ☐No Wetland type has a surface hydrology connection to open waters/stream or tidal wetlands.

14. Edge Effect – wetland type condition metric (skip for all marshes and Estuarine Woody Wetland)

May involve a GIS effort with field adjustment. Estimate distance from wetland type boundary to artificial edges. Artificial edges include non-forested areas ≥ 40 feet wide such as fields, development, roads, regularly maintained utility line corridors, and clear-cuts. Consider the eight main points of the compass. Artificial edge occurs within 150 feet in how many directions? If the assessment area is clear cut, select option "C."

- ☐A 0
☒B 1 to 4
☐C 5 to 8

15. Vegetative Composition – assessment area condition metric (skip for all marshes and Pine Flat)

- ☒A Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area.
☐B Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata.
☐C Vegetation severely altered from reference in composition, or expected species are unnaturally absent (planted stands of non-characteristic species or at least one stratum inappropriately composed of a single species), or exotic species are dominant in at least one stratum.

16. Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)

- ☐A Vegetation diversity is high and is composed primarily of native species (< 10% cover of exotics).
☐B Vegetation diversity is low or has > 10% to 50% cover of exotics.
☐C Vegetation is dominated by exotic species (> 50 % cover of exotics).

17. Vegetative Structure – assessment area/wetland type condition metric

17a. Is vegetation present?

☒ Yes ☐ No If Yes, continue to 17b. If No, skip to Metric 18.

17b. Evaluate percent coverage of assessment area vegetation **for all marshes only**. Skip to 17c for non-marsh wetlands.

- ☐ A ≥ 25% coverage of vegetation
☐ B < 25% coverage of vegetation

17c. **Check a box in each column for each stratum.** Evaluate this portion of the metric **for non-marsh wetlands**. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately.

AA	WT	
Canopy ☒ A	☒ A	Canopy closed, or nearly closed, with natural gaps associated with natural processes
☐ B	☐ B	Canopy present, but opened more than natural gaps
☐ C	☐ C	Canopy sparse or absent
Mid-Story ☐ A	☐ A	Dense mid-story/sapling layer
☒ B	☒ B	Moderate density mid-story/sapling layer
☐ C	☐ C	Mid-story/sapling layer sparse or absent
Shrub ☐ A	☐ A	Dense shrub layer
☐ B	☐ B	Moderate density shrub layer
☒ C	☒ C	Shrub layer sparse or absent
Herb ☐ A	☐ A	Dense herb layer
☐ B	☐ B	Moderate density herb layer
☒ C	☒ C	Herb layer sparse or absent

18. Snags – wetland type condition metric (skip for all marshes)

- ☒ A Large snags (more than one) are visible (> 12 inches DBH, or large relative to species present and landscape stability).
☐ B Not A

19. Diameter Class Distribution – wetland type condition metric (skip for all marshes)

- ☒ A Majority of canopy trees have stems > 6 inches in diameter at breast height (DBH); many large trees (> 12 inches DBH) are present.
☐ B Majority of canopy trees have stems between 6 and 12 inches DBH, few are > 12 inch DBH.
☐ C Majority of canopy trees are < 6 inches DBH or no trees.

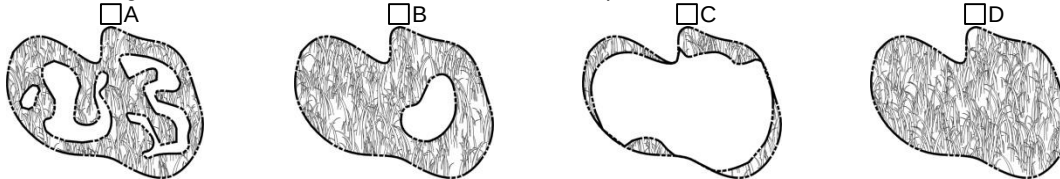
20. Large Woody Debris – wetland type condition metric (skip for all marshes)

Include both natural debris and man-placed natural debris.

- ☒ A Large logs (more than one) are visible (> 12 inches in diameter, or large relative to species present and landscape stability).
☐ B Not A

21. Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)

Select the figure that best describes the amount of interspersions between vegetation and open water in the growing season. Patterned areas indicate vegetated areas, while solid white areas indicate open water.



22. Hydrologic Connectivity – assessment area condition metric (evaluate for riparian wetlands and Salt/Brackish Marsh only)

Examples of activities that may severely alter hydrologic connectivity include intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, and stream incision. Documentation required if evaluated as B, C, or D.

- ☒ A Overbank and overland flow are not severely altered in the assessment area.
☐ B Overbank flow is severely altered in the assessment area.
☐ C Overland flow is severely altered in the assessment area.
☐ D Both overbank and overland flow are severely altered in the assessment area.

Notes

These large wetlands are assessed on the same form due to physical/biological similarities and close proximity.

NC WAM Wetland Rating Sheet

Accompanies User Manual Version 5.0

Wetland Site Name WS/WT/WU Date of Assessment 04/15/2026
Wetland Type Riverine Swamp Forest Assessor Name/Organization Trevor Hall/ Three Oaks Engineers

Notes on Field Assessment Form (Y/N) YES
Presence of regulatory considerations (Y/N) YES
Wetland is intensively managed (Y/N) NO
Assessment area is located within 50 feet of a natural tributary or other open water (Y/N) YES
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	LOW
Water Quality	Pathogen Change	Condition	LOW
		Condition/Opportunity	LOW
		Opportunity Presence (Y/N)	NO
	Particulate Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence (Y/N)	YES
	Soluble Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence (Y/N)	YES
	Physical Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence (Y/N)	YES
	Pollution Change	Condition	NA
		Condition/Opportunity	NA
		Opportunity Presence (Y/N)	NA
Habitat	Physical Structure	Condition	MEDIUM
	Landscape Patch Structure	Condition	HIGH
	Vegetation Composition	Condition	HIGH

Function Rating Summary

Function	Metrics	Rating
Hydrology	Condition	LOW
Water Quality	Condition	HIGH
	Condition/Opportunity	HIGH
	Opportunity Presence (Y/N)	YES
Habitat	Condition	HIGH

Overall Wetland Rating HIGH

NC WAM FIELD ASSESSMENT FORM
Accompanies User Manual Version 5.0

USACE AID #		NCDWR#	
Project Name	NCDOT STIP: HO-0027	Date of Evaluation	04/15/2026
Applicant/Owner Name	NCDOT	Wetland Site Name	WW
Wetland Type	Riverine Swamp Forest	Assessor Name/Organization	Trevor Hall/ Three Oaks Engineers
Level III Ecoregion	Middle Atlantic Coastal Plain	Nearest Named Water Body	South Lake
River Basin	Pasquotank	USGS 8-Digit Catalogue Unit	03010205
County	Dare	NCDWR Region	Washington
☐ Yes ☒ No	Precipitation within 48 hrs?	Latitude/Longitude (dec-degrees)	35.866907, -75.916795

Evidence of stressors affecting the assessment area (may not be within the assessment area)

Please circle and/or make note on the last page if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past (for instance, within 10 years). Noteworthy stressors include, but are not limited to the following.

- Hydrological modifications (examples: ditches, dams, beaver dams, dikes, berms, ponds, etc.)
- Surface and sub-surface discharges into the wetland (examples: discharges containing obvious pollutants, presence of nearby septic tanks, underground storage tanks (USTs), hog lagoons, etc.)
- Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.)
- Habitat/plant community alteration (examples: mowing, clear-cutting, exotics, etc.)

Is the assessment area intensively managed? ☐ Yes ☒ No

Regulatory Considerations - Were regulatory considerations evaluated? ☒ Yes ☐ No If Yes, check all that apply to the assessment area.

- ☒ Anadromous fish
- ☐ Federally protected species or State endangered or threatened species
- ☐ NCDWR riparian buffer rule in effect
- ☐ Abuts a Primary Nursery Area (PNA)
- ☐ Publicly owned property
- ☐ N.C. Division of Coastal Management Area of Environmental Concern (AEC) (including buffer)
- ☐ Abuts a stream with a NCDWQ classification of SA or supplemental classifications of HQW, ORW, or Trout
- ☐ Designated NCNHP reference community
- ☐ Abuts a 303(d)-listed stream or a tributary to a 303(d)-listed stream

What type of natural stream is associated with the wetland, if any? (check all that apply)

- ☒ Blackwater
- ☐ Brownwater
- ☐ Tidal (if tidal, check one of the following boxes) ☐ Lunar ☐ Wind ☐ Both

Is the assessment area on a coastal island? ☐ Yes ☒ No

Is the assessment area's surface water storage capacity or duration substantially altered by beaver? ☐ Yes ☒ No

Does the assessment area experience overbank flooding during normal rainfall conditions? ☐ Yes ☒ No

1. Ground Surface Condition/Vegetation Condition – assessment area condition metric

Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation structure (VS) in the assessment area. Compare to reference wetland if applicable (see User Manual). If a reference is not applicable, then rate the assessment area based on evidence an effect.

- | | | |
|---------------------------------------|---------------------------------------|--|
| GS | VS | |
| ☒ A | ☒ A | Not severely altered |
| ☐ B | ☐ B | Severely altered over a majority of the assessment area (ground surface alteration examples: vehicle tracks, excessive sedimentation, fire-plow lanes, skidder tracks, bedding, fill, soil compaction, obvious pollutants) (vegetation structure alteration examples: mechanical disturbance, herbicides, salt intrusion [where appropriate], exotic species, grazing, less diversity [if appropriate], hydrologic alteration) |

2. Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric

Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub). Consider both increase and decrease in hydrology. A ditch ≤ 1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if applicable.

- | | | |
|---------------------------------------|---------------------------------------|--|
| Surf | Sub | |
| ☐ A | ☐ A | Water storage capacity and duration are not altered. |
| ☒ B | ☒ B | Water storage capacity or duration are altered, but not substantially (typically, not sufficient to change vegetation). |
| ☐ C | ☐ C | Water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples: draining, flooding, soil compaction, filling, excessive sedimentation, underground utility lines). |

3. Water Storage/Surface Relief – assessment area/wetland type condition metric (skip for all marshes)

Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT).

- | | | |
|---|---------------------------------------|---|
| AA | WT | |
| 3a. ☒ A | ☒ A | Majority of wetland with depressions able to pond water > 1 deep |
| ☐ B | ☐ B | Majority of wetland with depressions able to pond water 6 inches to 1 foot deep |
| ☐ C | ☐ C | Majority of wetland with depressions able to pond water 3 to 6 inches deep |
| ☐ D | ☐ D | Depressions able to pond water < 3 inches deep |
| 3b. ☒ A | | Evidence that maximum depth of inundation is greater than 2 feet |
| ☐ B | | Evidence that maximum depth of inundation is between 1 and 2 feet |
| ☐ C | | Evidence that maximum depth of inundation is less than 1 foot |

4. Soil Texture/Structure – assessment area condition metric (skip for all marshes)

Check a box from each of the three soil property groups below. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top 12 inches. Use most recent National Technical Committee for Hydric Soils guidance for regional indicators.

- 4a. ☐A Sandy soil
☐B Loamy or clayey soils exhibiting redoximorphic features (concentrations, depletions, or rhizospheres)
☒C Loamy or clayey soils not exhibiting redoximorphic features
☐D Loamy or clayey gleyed soil
☐E Histosol or histic epipedon
- 4b. ☐A Soil ribbon < 1 inch
☒B Soil ribbon ≥ 1 inch
- 4c. ☐A No peat or muck presence
☒B A peat or muck presence

5. Discharge into Wetland – opportunity metric

Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc.

- | Surf | Sub | |
|---------------------------------------|---------------------------------------|---|
| ☒ A | ☒ A | Little or no evidence of pollutants or discharges entering the assessment area |
| ☐ B | ☐ B | Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the treatment capacity of the assessment area |
| ☐ C | ☐ C | Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation, odor) |

6. Land Use – opportunity metric (skip for non-riparian wetlands)

Check all that apply (at least one box in each column). Evaluation involves a GIS effort with field adjustment. Consider sources draining to assessment area within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles and within the watershed draining to the assessment area (2M).

- | WS | 5M | 2M | |
|---------------------------------------|---------------------------------------|---------------------------------------|---|
| ☐ A | ☐ A | ☐ A | ≥ 10% impervious surfaces |
| ☐ B | ☐ B | ☐ B | Confined animal operations (or other local, concentrated source of pollutants) |
| ☐ C | ☐ C | ☐ C | ≥ 20% coverage of pasture |
| ☒ D | ☒ D | ☒ D | ≥ 20% coverage of agricultural land (regularly plowed land) |
| ☐ E | ☐ E | ☐ E | ≥ 20% coverage of maintained grass/herb |
| ☐ F | ☐ F | ☐ F | ≥ 20% coverage of clear-cut land |
| ☐ G | ☐ G | ☐ G | Little or no opportunity to improve water quality. Lack of opportunity may result from little or no disturbance in the watershed <u>or</u> hydrologic alterations that prevent drainage <u>and/or</u> overbank flow from affecting the assessment area. |

7. Wetland Acting as Vegetated Buffer – assessment area/wetland complex condition metric (skip for non-riparian wetlands)

- 7a. Is assessment area within 50 feet of a tributary or other open water?
☒Yes ☐No If Yes, continue to 7b. If No, skip to Metric 8.
Wetland buffer need only be present on one side of the water body. Make buffer judgment based on the average width of wetland. Record a note if a portion of the buffer has been removed or disturbed.
- 7b. How much of the first 50 feet from the bank is wetland? (Wetland buffer need only be present on one side of the water body. Make buffer judgment based on the average width of wetland. Record a note if a portion of the buffer has been removed or disturbed.)
☐A ≥ 50 feet
☐B From 30 to < 50 feet
☐C From 15 to < 30 feet
☐D From 5 to < 15 feet
☒E < 5 feet or buffer bypassed by ditches
- 7c. Tributary width. If the tributary is anastomosed, combine widths of channels/braids for a total width.
☒≤ 15-feet wide ☐ > 15-feet wide ☐ Other open water (no tributary present)
- 7d. Do roots of assessment area vegetation extend into the bank of the tributary/open water?
☒Yes ☐No
- 7e. Is stream or other open water sheltered or exposed?
☒Sheltered – adjacent open water with width < 2500 feet and no regular boat traffic.
☐Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic.

8. Wetland Width at the Assessment Area – wetland type/wetland complex condition metric (evaluate WT for all marshes and Estuarine Woody Wetland only; evaluate WC for Bottomland Hardwood Forest, Headwater Forest, and Riverine Swamp Forest only)

Check a box in each column for riverine wetlands only. Select the average width for the wetland type at the assessment area (WT) and the wetland complex at the assessment area (WC). See User Manual for WT and WC boundaries.

- | WT | WC | |
|----------------------------|---------------------------------------|-----------------------|
| ☐ A | ☐ A | ≥ 100 feet |
| ☐ B | ☒ B | From 80 to < 100 feet |
| ☐ C | ☐ C | From 50 to < 80 feet |
| ☐ D | ☐ D | From 40 to < 50 feet |
| ☐ E | ☐ E | From 30 to < 40 feet |
| ☐ F | ☐ F | From 15 to < 30 feet |
| ☐ G | ☐ G | From 5 to < 15 feet |
| ☐ H | ☐ H | < 5 feet |

9. Inundation Duration – assessment area condition metric (skip for non-riparian wetlands)

Answer for assessment area dominant landform.

- ☒A Evidence of short-duration inundation (< 7 consecutive days)
☐B Evidence of saturation, without evidence of inundation
☐C Evidence of long-duration inundation or very long-duration inundation (7 to 30 consecutive days or more)

10. Indicators of Deposition – assessment area condition metric (skip for non-riparian wetlands and all marshes)

Consider recent deposition only (no plant growth since deposition).

- ☒A Sediment deposition is not excessive, but at approximately natural levels.
☐B Sediment deposition is excessive, but not overwhelming the wetland.
☐C Sediment deposition is excessive and is overwhelming the wetland.

11. Wetland Size – wetland type/wetland complex condition metric

Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the wetland complex (WC), and the size of the forested wetland (FW) (if applicable, see User Manual). See the User Manual for boundaries of these evaluation areas. If assessment area is clear-cut, select "K" for the FW column.

WT	WC	FW (if applicable)
☐ A	☐ A	☐ A ≥ 500 acres
☒ B	☒ B	☒ B From 100 to < 500 acres
☐ C	☐ C	☐ C From 50 to < 100 acres
☐ D	☐ D	☐ D From 25 to < 50 acres
☐ E	☐ E	☐ E From 10 to < 25 acres
☐ F	☐ F	☐ F From 5 to < 10 acres
☐ G	☐ G	☐ G From 1 to < 5 acres
☐ H	☐ H	☐ H From 0.5 to < 1 acre
☐ I	☐ I	☐ I From 0.1 to < 0.5 acre
☐ J	☐ J	☐ J From 0.01 to < 0.1 acre
☐ K	☐ K	☐ K < 0.01 acre <u>or</u> assessment area is clear-cut

12. Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)

- ☐A Pocosin is the full extent (≥ 90%) of its natural landscape size.
☐B Pocosin type is < 90% of the full extent of its natural landscape size.

13. Connectivity to Other Natural Areas – landscape condition metric

13a. Check appropriate box(es) (a box may be checked in each column). Involves a GIS effort with field adjustment. This metric evaluates whether the wetland is well connected (Well) and/or loosely connected (Loosely) to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate). Boundaries are formed by four-lane roads, regularly maintained utility line corridors the width of a four-lane road or wider, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide.

Well	Loosely
☐ A	☒ A ≥ 500 acres
☐ B	☐ B From 100 to < 500 acres
☐ C	☐ C From 50 to < 100 acres
☐ D	☐ D From 10 to < 50 acres
☒ E	☐ E < 10 acres
☐ F	☐ F Wetland type has a poor or no connection to other natural habitats

13b. Evaluate for marshes only.

- ☐Yes ☐No Wetland type has a surface hydrology connection to open waters/stream or tidal wetlands.

14. Edge Effect – wetland type condition metric (skip for all marshes and Estuarine Woody Wetland)

May involve a GIS effort with field adjustment. Estimate distance from wetland type boundary to artificial edges. Artificial edges include non-forested areas ≥ 40 feet wide such as fields, development, roads, regularly maintained utility line corridors, and clear-cuts. Consider the eight main points of the compass. Artificial edge occurs within 150 feet in how many directions? If the assessment area is clear cut, select option "C."

- ☐A 0
☐B 1 to 4
☒C 5 to 8

15. Vegetative Composition – assessment area condition metric (skip for all marshes and Pine Flat)

- ☒A Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area.
☐B Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata.
☐C Vegetation severely altered from reference in composition, or expected species are unnaturally absent (planted stands of non-characteristic species or at least one stratum inappropriately composed of a single species), or exotic species are dominant in at least one stratum.

16. Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)

- ☐A Vegetation diversity is high and is composed primarily of native species (< 10% cover of exotics).
☐B Vegetation diversity is low or has > 10% to 50% cover of exotics.
☐C Vegetation is dominated by exotic species (> 50 % cover of exotics).

17. Vegetative Structure – assessment area/wetland type condition metric

17a. Is vegetation present?

☒ Yes ☐ No If Yes, continue to 17b. If No, skip to Metric 18.

17b. Evaluate percent coverage of assessment area vegetation **for all marshes only**. Skip to 17c for non-marsh wetlands.

- ☐ A ≥ 25% coverage of vegetation
☐ B < 25% coverage of vegetation

17c. **Check a box in each column for each stratum.** Evaluate this portion of the metric **for non-marsh wetlands**. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately.

AA	WT	
Canopy ☒ A	☒ A	Canopy closed, or nearly closed, with natural gaps associated with natural processes
☐ B	☐ B	Canopy present, but opened more than natural gaps
☐ C	☐ C	Canopy sparse or absent
Mid-Story ☐ A	☐ A	Dense mid-story/sapling layer
☒ B	☒ B	Moderate density mid-story/sapling layer
☐ C	☐ C	Mid-story/sapling layer sparse or absent
Shrub ☐ A	☐ A	Dense shrub layer
☒ B	☒ B	Moderate density shrub layer
☐ C	☐ C	Shrub layer sparse or absent
Herb ☐ A	☐ A	Dense herb layer
☒ B	☒ B	Moderate density herb layer
☐ C	☐ C	Herb layer sparse or absent

18. Snags – wetland type condition metric (skip for all marshes)

- ☒ A Large snags (more than one) are visible (> 12 inches DBH, or large relative to species present and landscape stability).
☐ B Not A

19. Diameter Class Distribution – wetland type condition metric (skip for all marshes)

- ☒ A Majority of canopy trees have stems > 6 inches in diameter at breast height (DBH); many large trees (> 12 inches DBH) are present.
☐ B Majority of canopy trees have stems between 6 and 12 inches DBH, few are > 12 inch DBH.
☐ C Majority of canopy trees are < 6 inches DBH or no trees.

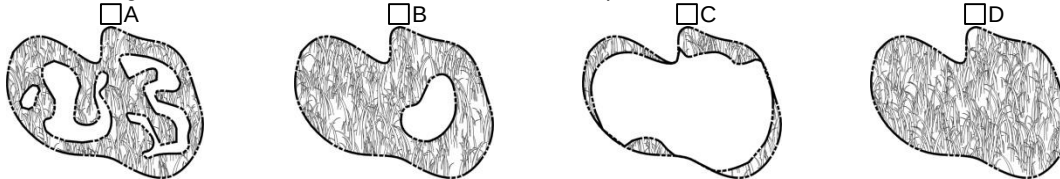
20. Large Woody Debris – wetland type condition metric (skip for all marshes)

Include both natural debris and man-placed natural debris.

- ☒ A Large logs (more than one) are visible (> 12 inches in diameter, or large relative to species present and landscape stability).
☐ B Not A

21. Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)

Select the figure that best describes the amount of interspersions between vegetation and open water in the growing season. Patterned areas indicate vegetated areas, while solid white areas indicate open water.



22. Hydrologic Connectivity – assessment area condition metric (evaluate for riparian wetlands and Salt/Brackish Marsh only)

Examples of activities that may severely alter hydrologic connectivity include intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, and stream incision. Documentation required if evaluated as B, C, or D.

- ☒ A Overbank and overland flow are not severely altered in the assessment area.
☐ B Overbank flow is severely altered in the assessment area.
☐ C Overland flow is severely altered in the assessment area.
☐ D Both overbank and overland flow are severely altered in the assessment area.

Notes

This wetland has a small road running along its south edge, and US 64 along its north edge.

NC WAM Wetland Rating Sheet **Accompanies User Manual Version 5.0**

Wetland Site Name WW Date of Assessment 04/15/2026
Wetland Type Riverine Swamp Forest Assessor Name/Organization Trevor Hall/ Three Oaks Engineers

Notes on Field Assessment Form (Y/N) YES
Presence of regulatory considerations (Y/N) YES
Wetland is intensively managed (Y/N) NO
Assessment area is located within 50 feet of a natural tributary or other open water (Y/N) YES
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	HIGH
	Sub-surface Storage and Retention	Condition	LOW
Water Quality	Pathogen Change	Condition	MEDIUM
		Condition/Opportunity	MEDIUM
		Opportunity Presence (Y/N)	NO
	Particulate Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence (Y/N)	YES
	Soluble Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence (Y/N)	YES
	Physical Change	Condition	MEDIUM
		Condition/Opportunity	HIGH
		Opportunity Presence (Y/N)	YES
	Pollution Change	Condition	NA
		Condition/Opportunity	NA
		Opportunity Presence (Y/N)	NA
Habitat	Physical Structure	Condition	
	Landscape Patch Structure	Condition	HIGH
	Vegetation Composition	Condition	HIGH

Function Rating Summary

Function	Metrics	Rating
Hydrology	Condition	HIGH
Water Quality	Condition	HIGH
	Condition/Opportunity	HIGH
	Opportunity Presence (Y/N)	YES
Habitat	Condition	

Overall Wetland Rating _____

NC WAM FIELD ASSESSMENT FORM
Accompanies User Manual Version 5.0

USACE AID #		NCDWR#	
Project Name	NCDOT STIP: HO-0027	Date of Evaluation	04/16/2026
Applicant/Owner Name	NCDOT	Wetland Site Name	WY
Wetland Type	Tidal Freshwater Marsh	Assessor Name/Organization	Trevor Hall/ Three Oaks Engineers
Level III Ecoregion	Middle Atlantic Coastal Plain	Nearest Named Water Body	South Lake (Alligator River)
River Basin	Pasquotank	USGS 8-Digit Catalogue Unit	03010205
County	Dare	NCDWR Region	Washington
☐ Yes ☒ No	Precipitation within 48 hrs?	Latitude/Longitude (dec-degrees)	35.867022, -75.914225

Evidence of stressors affecting the assessment area (may not be within the assessment area)

Please circle and/or make note on the last page if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past (for instance, within 10 years). Noteworthy stressors include, but are not limited to the following.

- Hydrological modifications (examples: ditches, dams, beaver dams, dikes, berms, ponds, etc.)
- Surface and sub-surface discharges into the wetland (examples: discharges containing obvious pollutants, presence of nearby septic tanks, underground storage tanks (USTs), hog lagoons, etc.)
- Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.)
- Habitat/plant community alteration (examples: mowing, clear-cutting, exotics, etc.)

Is the assessment area intensively managed? ☒ Yes ☐ No

Regulatory Considerations - Were regulatory considerations evaluated? ☒ Yes ☐ No If Yes, check all that apply to the assessment area.

- ☒ Anadromous fish
- ☒ Federally protected species or State endangered or threatened species
- ☐ NCDWR riparian buffer rule in effect
- ☐ Abuts a Primary Nursery Area (PNA)
- ☒ Publicly owned property
- ☐ N.C. Division of Coastal Management Area of Environmental Concern (AEC) (including buffer)
- ☐ Abuts a stream with a NCDWQ classification of SA or supplemental classifications of HQW, ORW, or Trout
- ☒ Designated NCNHP reference community
- ☐ Abuts a 303(d)-listed stream or a tributary to a 303(d)-listed stream

What type of natural stream is associated with the wetland, if any? (check all that apply)

- ☒ Blackwater
- ☐ Brownwater
- ☐ Tidal (if tidal, check one of the following boxes) ☐ Lunar ☐ Wind ☐ Both

Is the assessment area on a coastal island? ☐ Yes ☒ No

Is the assessment area's surface water storage capacity or duration substantially altered by beaver? ☐ Yes ☒ No

Does the assessment area experience overbank flooding during normal rainfall conditions? ☐ Yes ☒ No

1. Ground Surface Condition/Vegetation Condition – assessment area condition metric

Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation structure (VS) in the assessment area. Compare to reference wetland if applicable (see User Manual). If a reference is not applicable, then rate the assessment area based on evidence an effect.

- | | | |
|---------------------------------------|---------------------------------------|--|
| GS | VS | |
| ☐ A | ☐ A | Not severely altered |
| ☒ B | ☒ B | Severely altered over a majority of the assessment area (ground surface alteration examples: vehicle tracks, excessive sedimentation, fire-plow lanes, skidder tracks, bedding, fill, soil compaction, obvious pollutants) (vegetation structure alteration examples: mechanical disturbance, herbicides, salt intrusion [where appropriate], exotic species, grazing, less diversity [if appropriate], hydrologic alteration) |

2. Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric

Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub). Consider both increase and decrease in hydrology. A ditch ≤ 1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if applicable.

- | | | |
|---------------------------------------|---------------------------------------|--|
| Surf | Sub | |
| ☐ A | ☒ A | Water storage capacity and duration are not altered. |
| ☒ B | ☐ B | Water storage capacity or duration are altered, but not substantially (typically, not sufficient to change vegetation). |
| ☐ C | ☐ C | Water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples: draining, flooding, soil compaction, filling, excessive sedimentation, underground utility lines). |

3. Water Storage/Surface Relief – assessment area/wetland type condition metric (skip for all marshes)

Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT).

- | | | | |
|-----|----------------------------|----------------------------|---|
| | AA | WT | |
| 3a. | ☐ A | ☐ A | Majority of wetland with depressions able to pond water > 1 deep |
| | ☐ B | ☐ B | Majority of wetland with depressions able to pond water 6 inches to 1 foot deep |
| | ☐ C | ☐ C | Majority of wetland with depressions able to pond water 3 to 6 inches deep |
| | ☐ D | ☐ D | Depressions able to pond water < 3 inches deep |
| 3b. | ☐ A | | Evidence that maximum depth of inundation is greater than 2 feet |
| | ☐ B | | Evidence that maximum depth of inundation is between 1 and 2 feet |
| | ☐ C | | Evidence that maximum depth of inundation is less than 1 foot |

4. Soil Texture/Structure – assessment area condition metric (skip for all marshes)

Check a box from each of the three soil property groups below. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top 12 inches. Use most recent National Technical Committee for Hydric Soils guidance for regional indicators.

- 4a. ☐A Sandy soil
☐B Loamy or clayey soils exhibiting redoximorphic features (concentrations, depletions, or rhizospheres)
☐C Loamy or clayey soils not exhibiting redoximorphic features
☐D Loamy or clayey gleyed soil
☐E Histosol or histic epipedon
- 4b. ☐A Soil ribbon < 1 inch
☐B Soil ribbon ≥ 1 inch
- 4c. ☐A No peat or muck presence
☐B A peat or muck presence

5. Discharge into Wetland – opportunity metric

Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc.

- | Surf | Sub | |
|---------------------------------------|---------------------------------------|---|
| ☒ A | ☒ A | Little or no evidence of pollutants or discharges entering the assessment area |
| ☐ B | ☐ B | Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the treatment capacity of the assessment area |
| ☐ C | ☐ C | Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation, odor) |

6. Land Use – opportunity metric (skip for non-riparian wetlands)

Check all that apply (at least one box in each column). Evaluation involves a GIS effort with field adjustment. Consider sources draining to assessment area within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles and within the watershed draining to the assessment area (2M).

- | WS | 5M | 2M | |
|---------------------------------------|---------------------------------------|---------------------------------------|---|
| ☐ A | ☐ A | ☐ A | ≥ 10% impervious surfaces |
| ☐ B | ☐ B | ☐ B | Confined animal operations (or other local, concentrated source of pollutants) |
| ☐ C | ☐ C | ☐ C | ≥ 20% coverage of pasture |
| ☒ D | ☒ D | ☒ D | ≥ 20% coverage of agricultural land (regularly plowed land) |
| ☐ E | ☐ E | ☐ E | ≥ 20% coverage of maintained grass/herb |
| ☐ F | ☐ F | ☐ F | ≥ 20% coverage of clear-cut land |
| ☐ G | ☐ G | ☐ G | Little or no opportunity to improve water quality. Lack of opportunity may result from little or no disturbance in the watershed <u>or</u> hydrologic alterations that prevent drainage <u>and/or</u> overbank flow from affecting the assessment area. |

7. Wetland Acting as Vegetated Buffer – assessment area/wetland complex condition metric (skip for non-riparian wetlands)

- 7a. Is assessment area within 50 feet of a tributary or other open water?
☒Yes ☐No If Yes, continue to 7b. If No, skip to Metric 8.
Wetland buffer need only be present on one side of the water body. Make buffer judgment based on the average width of wetland. Record a note if a portion of the buffer has been removed or disturbed.
- 7b. How much of the first 50 feet from the bank is wetland? (Wetland buffer need only be present on one side of the water body. Make buffer judgment based on the average width of wetland. Record a note if a portion of the buffer has been removed or disturbed.)
☐A ≥ 50 feet
☐B From 30 to < 50 feet
☒C From 15 to < 30 feet
☐D From 5 to < 15 feet
☐E < 5 feet or buffer bypassed by ditches
- 7c. Tributary width. If the tributary is anastomosed, combine widths of channels/braids for a total width.
☒≤ 15-feet wide ☐ > 15-feet wide ☐ Other open water (no tributary present)
- 7d. Do roots of assessment area vegetation extend into the bank of the tributary/open water?
☒Yes ☐No
- 7e. Is stream or other open water sheltered or exposed?
☒Sheltered – adjacent open water with width < 2500 feet and no regular boat traffic.
☐Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic.

8. Wetland Width at the Assessment Area – wetland type/wetland complex condition metric (evaluate WT for all marshes and Estuarine Woody Wetland only; evaluate WC for Bottomland Hardwood Forest, Headwater Forest, and Riverine Swamp Forest only)

Check a box in each column for riverine wetlands only. Select the average width for the wetland type at the assessment area (WT) and the wetland complex at the assessment area (WC). See User Manual for WT and WC boundaries.

- | WT | WC | |
|---------------------------------------|----------------------------|-----------------------|
| ☐ A | ☐ A | ≥ 100 feet |
| ☐ B | ☐ B | From 80 to < 100 feet |
| ☐ C | ☐ C | From 50 to < 80 feet |
| ☐ D | ☐ D | From 40 to < 50 feet |
| ☐ E | ☐ E | From 30 to < 40 feet |
| ☒ F | ☐ F | From 15 to < 30 feet |
| ☐ G | ☐ G | From 5 to < 15 feet |
| ☐ H | ☐ H | < 5 feet |

9. Inundation Duration – assessment area condition metric (skip for non-riparian wetlands)

Answer for assessment area dominant landform.

- ☒A Evidence of short-duration inundation (< 7 consecutive days)
☐B Evidence of saturation, without evidence of inundation
☐C Evidence of long-duration inundation or very long-duration inundation (7 to 30 consecutive days or more)

10. Indicators of Deposition – assessment area condition metric (skip for non-riparian wetlands and all marshes)

Consider recent deposition only (no plant growth since deposition).

- ☐A Sediment deposition is not excessive, but at approximately natural levels.
☐B Sediment deposition is excessive, but not overwhelming the wetland.
☐C Sediment deposition is excessive and is overwhelming the wetland.

11. Wetland Size – wetland type/wetland complex condition metric

Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the wetland complex (WC), and the size of the forested wetland (FW) (if applicable, see User Manual). See the User Manual for boundaries of these evaluation areas. If assessment area is clear-cut, select "K" for the FW column.

- | WT | WC | FW (if applicable) |
|---------------------------------------|---------------------------------------|---|
| ☐ A | ☒ A | ☒ A ≥ 500 acres |
| ☐ B | ☐ B | ☐ B From 100 to < 500 acres |
| ☐ C | ☐ C | ☐ C From 50 to < 100 acres |
| ☐ D | ☐ D | ☐ D From 25 to < 50 acres |
| ☐ E | ☐ E | ☐ E From 10 to < 25 acres |
| ☐ F | ☐ F | ☐ F From 5 to < 10 acres |
| ☐ G | ☐ G | ☐ G From 1 to < 5 acres |
| ☐ H | ☐ H | ☐ H From 0.5 to < 1 acre |
| ☐ I | ☐ I | ☐ I From 0.1 to < 0.5 acre |
| ☒ J | ☐ J | ☐ J From 0.01 to < 0.1 acre |
| ☐ K | ☐ K | ☐ K < 0.01 acre <u>or</u> assessment area is clear-cut |

12. Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)

- ☐A Pocosin is the full extent (≥ 90%) of its natural landscape size.
☐B Pocosin type is < 90% of the full extent of its natural landscape size.

13. Connectivity to Other Natural Areas – landscape condition metric

13a. **Check appropriate box(es) (a box may be checked in each column).** Involves a GIS effort with field adjustment. This metric evaluates whether the wetland is well connected (Well) and/or loosely connected (Loosely) to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate). Boundaries are formed by four-lane roads, regularly maintained utility line corridors the width of a four-lane road or wider, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide.

- | Well | Loosely |
|---------------------------------------|---|
| ☒ A | ☒ A ≥ 500 acres |
| ☐ B | ☐ B From 100 to < 500 acres |
| ☐ C | ☐ C From 50 to < 100 acres |
| ☐ D | ☐ D From 10 to < 50 acres |
| ☐ E | ☐ E < 10 acres |
| ☐ F | ☐ F Wetland type has a poor or no connection to other natural habitats |

13b. **Evaluate for marshes only.**

- ☒Yes ☐No Wetland type has a surface hydrology connection to open waters/stream or tidal wetlands.

14. Edge Effect – wetland type condition metric (skip for all marshes and Estuarine Woody Wetland)

May involve a GIS effort with field adjustment. Estimate distance from wetland type boundary to artificial edges. Artificial edges include non-forested areas ≥ 40 feet wide such as fields, development, roads, regularly maintained utility line corridors, and clear-cuts. Consider the eight main points of the compass. Artificial edge occurs within 150 feet in how many directions? If the assessment area is clear cut, select option "C."

- ☐A 0
☐B 1 to 4
☐C 5 to 8

15. Vegetative Composition – assessment area condition metric (skip for all marshes and Pine Flat)

- ☐A Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area.
☐B Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata.
☐C Vegetation severely altered from reference in composition, or expected species are unnaturally absent (planted stands of non-characteristic species or at least one stratum inappropriately composed of a single species), or exotic species are dominant in at least one stratum.

16. Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)

- ☐A Vegetation diversity is high and is composed primarily of native species (< 10% cover of exotics).
☐B Vegetation diversity is low or has > 10% to 50% cover of exotics.
☐C Vegetation is dominated by exotic species (> 50 % cover of exotics).

17. Vegetative Structure – assessment area/wetland type condition metric

17a. Is vegetation present?

☒ Yes ☐ No If Yes, continue to 17b. If No, skip to Metric 18.

17b. Evaluate percent coverage of assessment area vegetation **for all marshes only**. Skip to 17c for non-marsh wetlands.

☒ A ≥ 25% coverage of vegetation
☐ B < 25% coverage of vegetation

17c. **Check a box in each column for each stratum.** Evaluate this portion of the metric **for non-marsh wetlands**. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately.

AA	WT	
Canopy ☐ A	☐ A	Canopy closed, or nearly closed, with natural gaps associated with natural processes
☐ B	☐ B	Canopy present, but opened more than natural gaps
☐ C	☐ C	Canopy sparse or absent
Mid-Story ☐ A	☐ A	Dense mid-story/sapling layer
☐ B	☐ B	Moderate density mid-story/sapling layer
☐ C	☐ C	Mid-story/sapling layer sparse or absent
Shrub ☐ A	☐ A	Dense shrub layer
☐ B	☐ B	Moderate density shrub layer
☐ C	☐ C	Shrub layer sparse or absent
Herb ☐ A	☐ A	Dense herb layer
☐ B	☐ B	Moderate density herb layer
☐ C	☐ C	Herb layer sparse or absent

18. Snags – wetland type condition metric (skip for all marshes)

☐ A Large snags (more than one) are visible (> 12 inches DBH, or large relative to species present and landscape stability).
☐ B Not A

19. Diameter Class Distribution – wetland type condition metric (skip for all marshes)

☐ A Majority of canopy trees have stems > 6 inches in diameter at breast height (DBH); many large trees (> 12 inches DBH) are present.
☐ B Majority of canopy trees have stems between 6 and 12 inches DBH, few are > 12 inch DBH.
☐ C Majority of canopy trees are < 6 inches DBH or no trees.

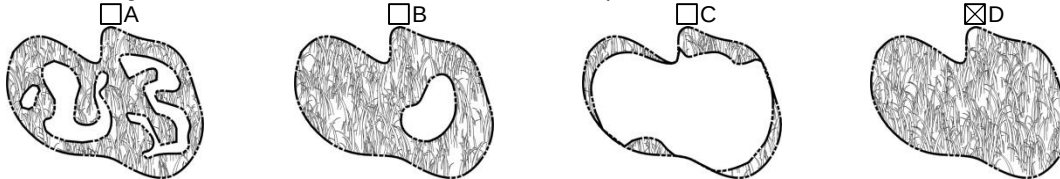
20. Large Woody Debris – wetland type condition metric (skip for all marshes)

Include both natural debris and man-placed natural debris.

☐ A Large logs (more than one) are visible (> 12 inches in diameter, or large relative to species present and landscape stability).
☐ B Not A

21. Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)

Select the figure that best describes the amount of interspersions between vegetation and open water in the growing season. Patterned areas indicate vegetated areas, while solid white areas indicate open water.



22. Hydrologic Connectivity – assessment area condition metric (evaluate for riparian wetlands and Salt/Brackish Marsh only)

Examples of activities that may severely alter hydrologic connectivity include intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, and stream incision. Documentation required if evaluated as B, C, or D.

☒ A Overbank and overland flow are not severely altered in the assessment area.
☐ B Overbank flow is severely altered in the assessment area.
☐ C Overland flow is severely altered in the assessment area.
☐ D Both overbank and overland flow are severely altered in the assessment area.

Notes

This wetland abuts a jurisdictional ditch on one side, and US 64 on the other side. Much of the vegetation is mowed along the road.

NC WAM Wetland Rating Sheet **Accompanies User Manual Version 5.0**

Wetland Site Name WY Date of Assessment 04/16/2026
Wetland Type Tidal Freshwater Marsh Assessor Name/Organization Trevor Hall/ Three Oaks Engineers

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

Sub-function Rating Summary

Function	Sub-function	Metrics	Rating
Hydrology	Surface Storage and Retention	Condition	<u>NA</u>
	Sub-surface Storage and Retention	Condition	<u>NA</u>
Water Quality	Pathogen Change	Condition	<u>NA</u>
		Condition/Opportunity	<u>NA</u>
		Opportunity Presence (Y/N)	<u>NA</u>
	Particulate Change	Condition	<u>NA</u>
		Condition/Opportunity	<u>NA</u>
		Opportunity Presence (Y/N)	<u>NA</u>
	Soluble Change	Condition	<u>NA</u>
		Condition/Opportunity	<u>NA</u>
		Opportunity Presence (Y/N)	<u>NA</u>
	Physical Change	Condition	<u>NA</u>
		Condition/Opportunity	<u>NA</u>
		Opportunity Presence (Y/N)	<u>NA</u>
	Pollution Change	Condition	<u>NA</u>
		Condition/Opportunity	<u>NA</u>
		Opportunity Presence (Y/N)	<u>NA</u>
Habitat	Physical Structure	Condition	<u>NA</u>
	Landscape Patch Structure	Condition	<u>NA</u>
	Vegetation Composition	Condition	<u>NA</u>

Function Rating Summary

Function	Metrics	Rating
Hydrology	Condition	<u>MEDIUM</u>
Water Quality	Condition	<u>MEDIUM</u>
	Condition/Opportunity	<u>MEDIUM</u>
	Opportunity Presence (Y/N)	<u>YES</u>
Habitat	Condition	<u>LOW</u>

Overall Wetland Rating **MEDIUM**

Appendix D
Site Photographs



WA/WB Wetland



WD Wetland



WB in powerline



WE Wetland



WC Wetland



WF Wetland



WG Wetland



WJ Wetland



WH Wetland



WK Wetland



WI Wetland along Lake Neighborhood Road



WL/WM Wetland



WN Wetland



WQ Wetland



WO Wetland



WR Wetland



WP Wetland



WS Wetland



WT Wetland



WW Wetland



WU Wetland



WX Wetland



WV Wetland



WY Wetland



WA/WB/WE/WF Upland



WI/WJ Upland



WC/WH Upland



WK Upland



WD/WG Upland



WL/WM/WN/WO/WQ/WR Upland



WP Upland



WW/WY Upland



WS/WT/WU Upland



WX Upland

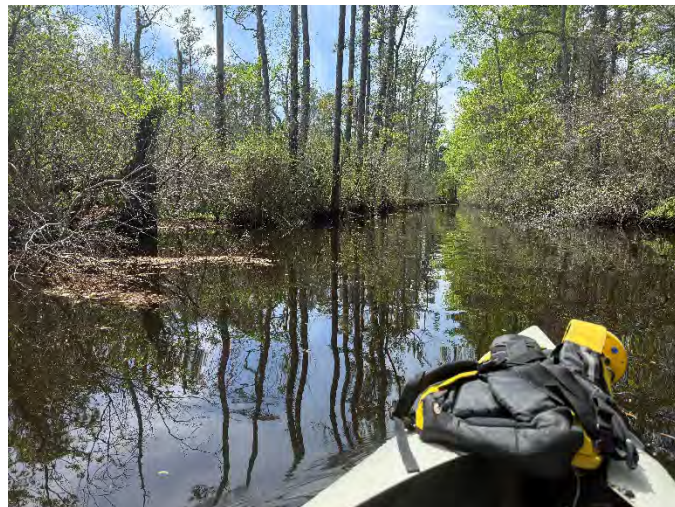


WV Upland

The remaining images show examples of the Jurisdictional
Ditches located in the study area



JDI



JDB



JDY (right) and JDC (left)

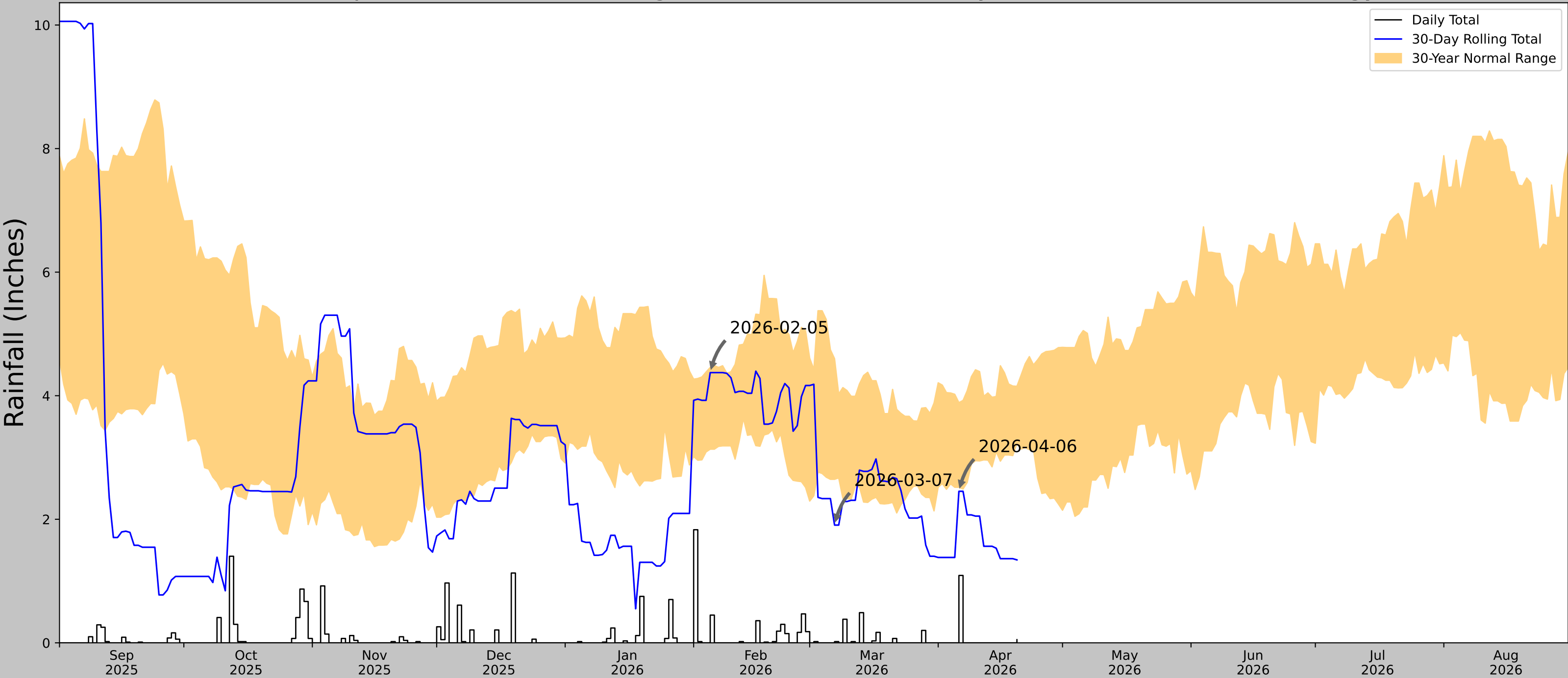


JDL

Appendix E

Antecedent Precipitation Tool Output

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	35.88038, -75.94592
Observation Date	2026-04-06
Elevation (ft)	1.181
Drought Index (PDSI)	Moderate drought (2026-03)
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2026-04-06	2.517717	3.888189	2.452756	Dry	1	3	3
2026-03-07	2.646457	4.6	1.905512	Dry	1	2	2
2026-02-05	3.134252	4.457874	4.374016	Normal	2	1	2
Result							Drier than Normal - 7



US Army Corps
of Engineers



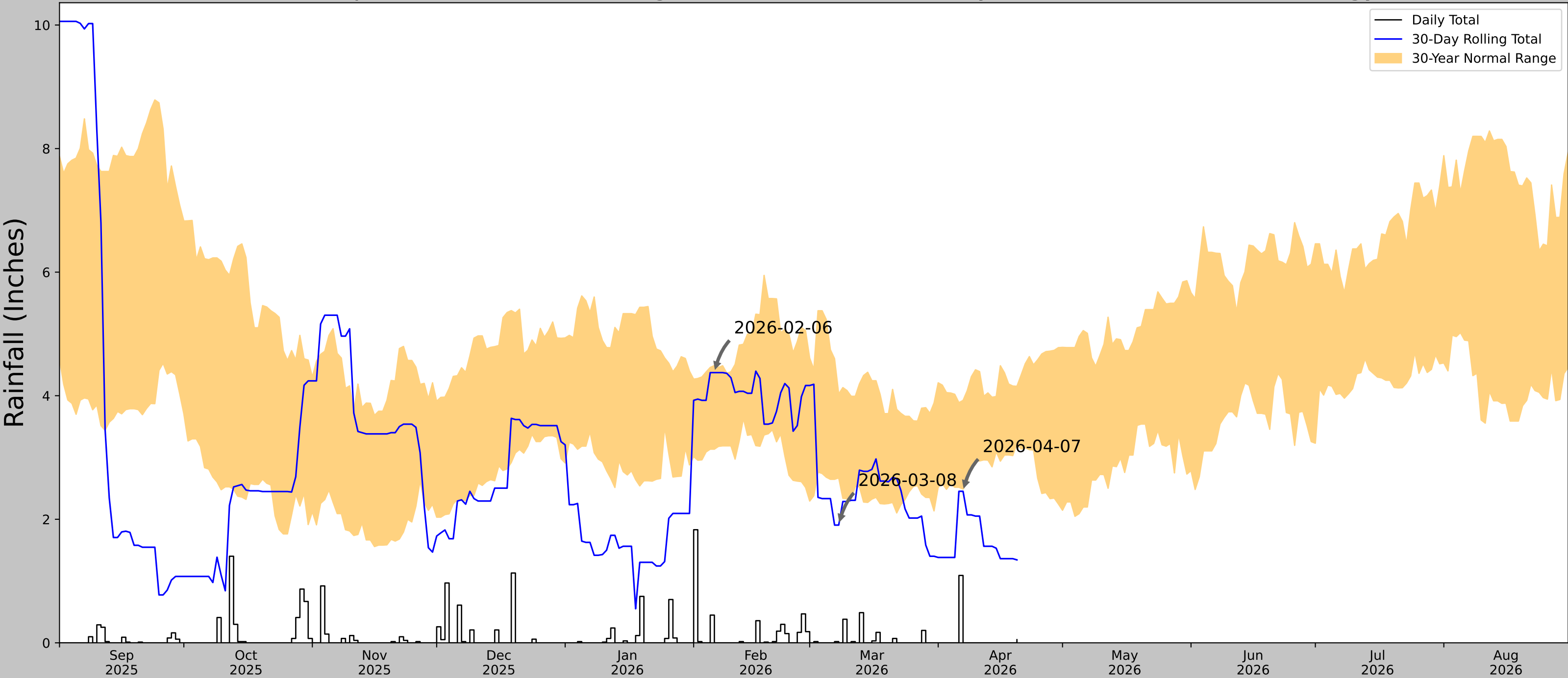
ERDC

Figures and tables made by the
Antecedent Precipitation Tool
Version 3.0

Developed by:
U.S. Army Corps of Engineers and
U.S. Army Engineer Research and
Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
COLUMBIA AG GUM NECK	35.7108, -76.1269	9.843	15.497	8.662	7.108	6127	90
FAIRFIELD	35.5361, -76.3122	4.921	15.938	4.922	7.251	774	0
NEW HOLLAND	35.4486, -76.2108	1.969	18.72	7.874	8.571	2374	0
SWANQUARTER FERRY	35.395, -76.3261	2.953	24.525	6.89	11.205	585	0
MANTEO AP	35.9172, -75.7	13.123	27.848	3.28	12.623	1436	0
EDENTON	36.0164, -76.5517	9.843	31.806	0.0	14.313	54	0
PLYMOUTH 5 E	35.8722, -76.6592	20.013	31.849	10.17	14.656	3	0

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	35.88038, -75.94592
Observation Date	2026-04-07
Elevation (ft)	1.181
Drought Index (PDSI)	Moderate drought (2026-03)
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2026-04-07	2.490158	3.924016	2.452756	Dry	1	3	3
2026-03-08	2.669685	4.027165	1.905512	Dry	1	2	2
2026-02-06	3.134252	4.488189	4.374016	Normal	2	1	2
Result							Drier than Normal - 7



US Army Corps
of Engineers



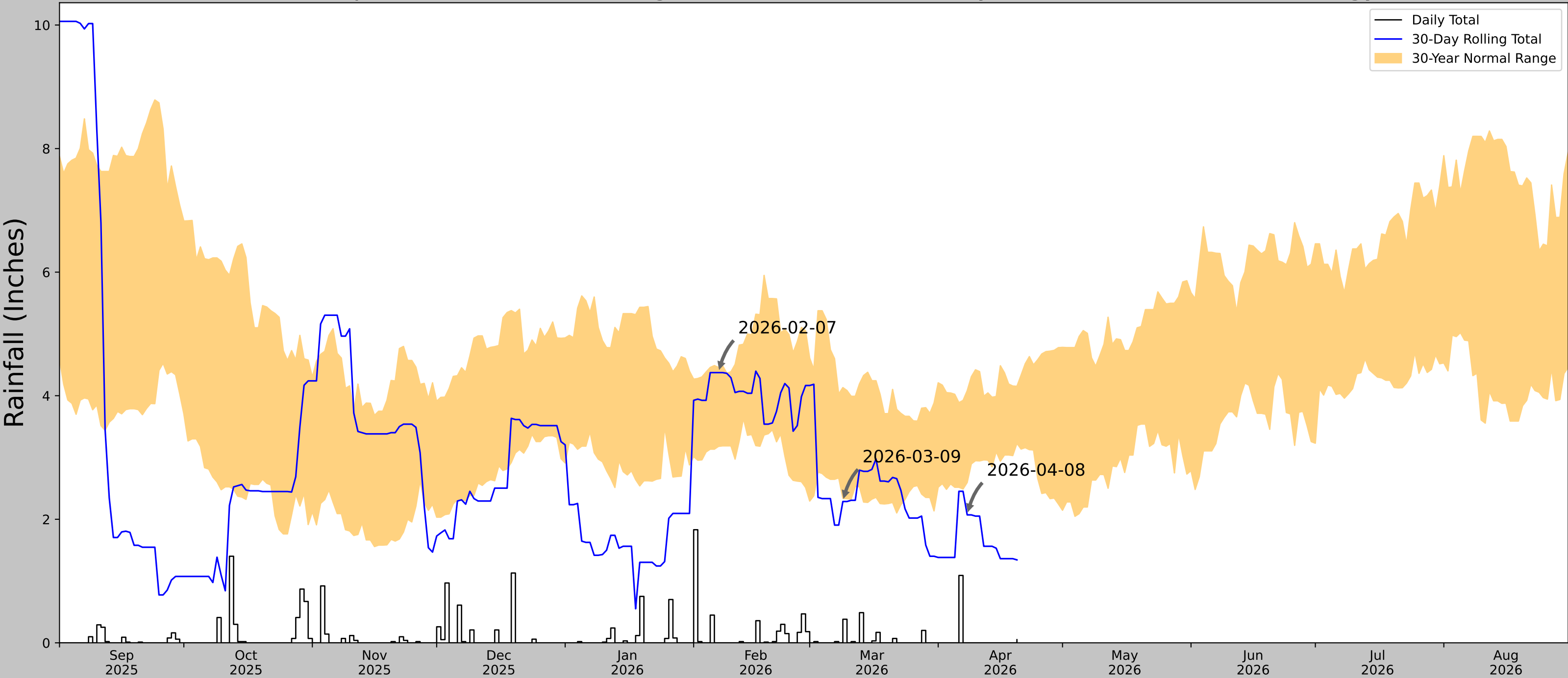
ERDC

Figures and tables made by the
Antecedent Precipitation Tool
Version 3.0

Developed by:
U.S. Army Corps of Engineers and
U.S. Army Engineer Research and
Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
COLUMBIA AG GUM NECK	35.7108, -76.1269	9.843	15.497	8.662	7.108	6127	90
FAIRFIELD	35.5361, -76.3122	4.921	15.938	4.922	7.251	774	0
NEW HOLLAND	35.4486, -76.2108	1.969	18.72	7.874	8.571	2374	0
SWANQUARTER FERRY	35.395, -76.3261	2.953	24.525	6.89	11.205	585	0
MANTEO AP	35.9172, -75.7	13.123	27.848	3.28	12.623	1436	0
EDENTON	36.0164, -76.5517	9.843	31.806	0.0	14.313	54	0
PLYMOUTH 5 E	35.8722, -76.6592	20.013	31.849	10.17	14.656	3	0

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	35.88038, -75.94592
Observation Date	2026-04-08
Elevation (ft)	1.181
Drought Index (PDSI)	Moderate drought (2026-03)
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2026-04-08	2.594882	4.081102	2.070866	Dry	1	3	3
2026-03-09	2.338976	4.13189	2.287402	Dry	1	2	2
2026-02-07	3.179528	4.457874	4.374016	Normal	2	1	2
Result							Drier than Normal - 7



US Army Corps
of Engineers



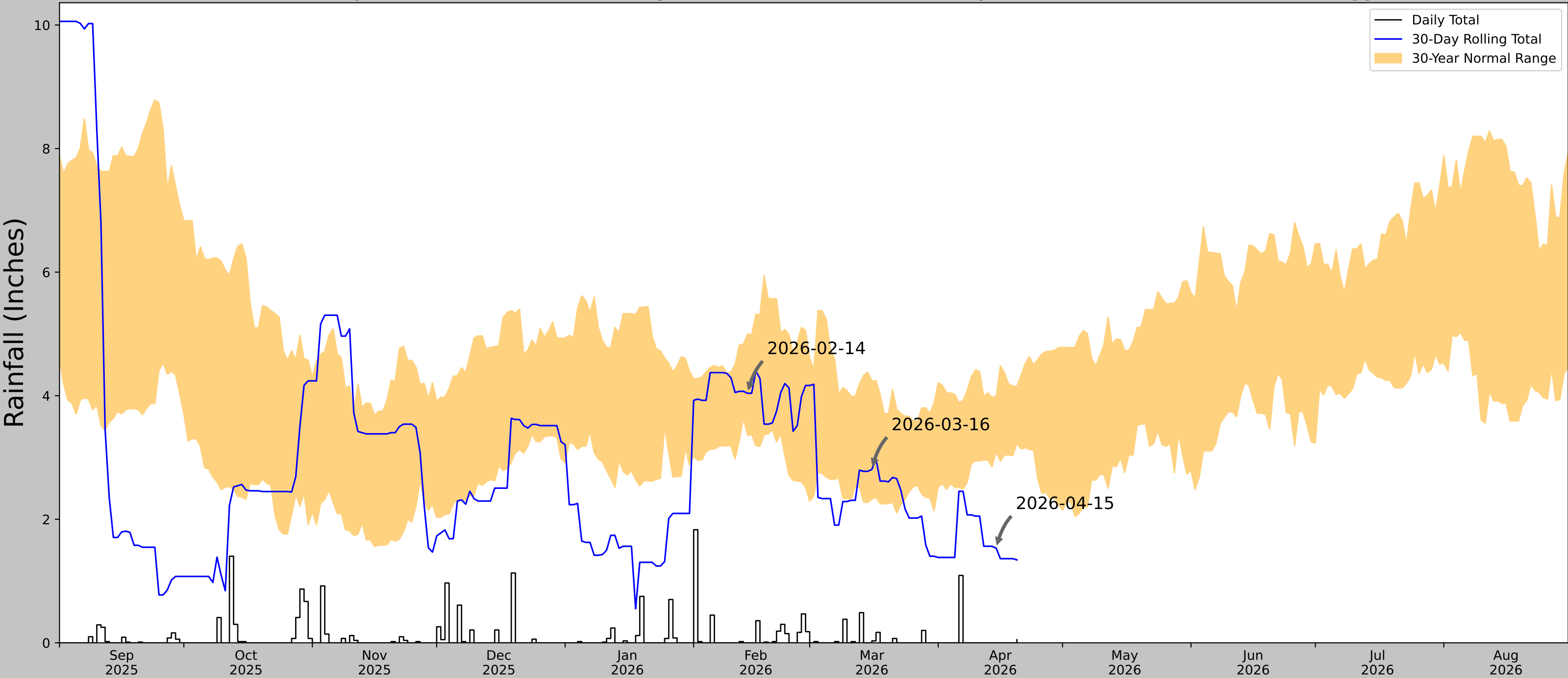
ERDC

Figures and tables made by the
Antecedent Precipitation Tool
Version 3.0

Developed by:
U.S. Army Corps of Engineers and
U.S. Army Engineer Research and
Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
COLUMBIA AG GUM NECK	35.7108, -76.1269	9.843	15.497	8.662	7.108	6127	90
FAIRFIELD	35.5361, -76.3122	4.921	15.938	4.922	7.251	774	0
NEW HOLLAND	35.4486, -76.2108	1.969	18.72	7.874	8.571	2374	0
SWANQUARTER FERRY	35.395, -76.3261	2.953	24.525	6.89	11.205	585	0
MANTEO AP	35.9172, -75.7	13.123	27.848	3.28	12.623	1436	0
EDENTON	36.0164, -76.5517	9.843	31.806	0.0	14.313	54	0
PLYMOUTH 5 E	35.8722, -76.6592	20.013	31.849	10.17	14.656	3	0

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	35.88038, -75.94592
Observation Date	2026-04-15
Elevation (ft)	1.181
Drought Index (PDSI)	Moderate drought (2026-03)
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2026-04-15	3.094488	3.988189	1.531496	Dry	1	3	3
2026-03-16	2.325591	4.242914	2.807087	Normal	2	2	4
2026-02-14	3.358662	4.998819	4.03937	Normal	2	1	2
Result							Drier than Normal - 9



US Army Corps
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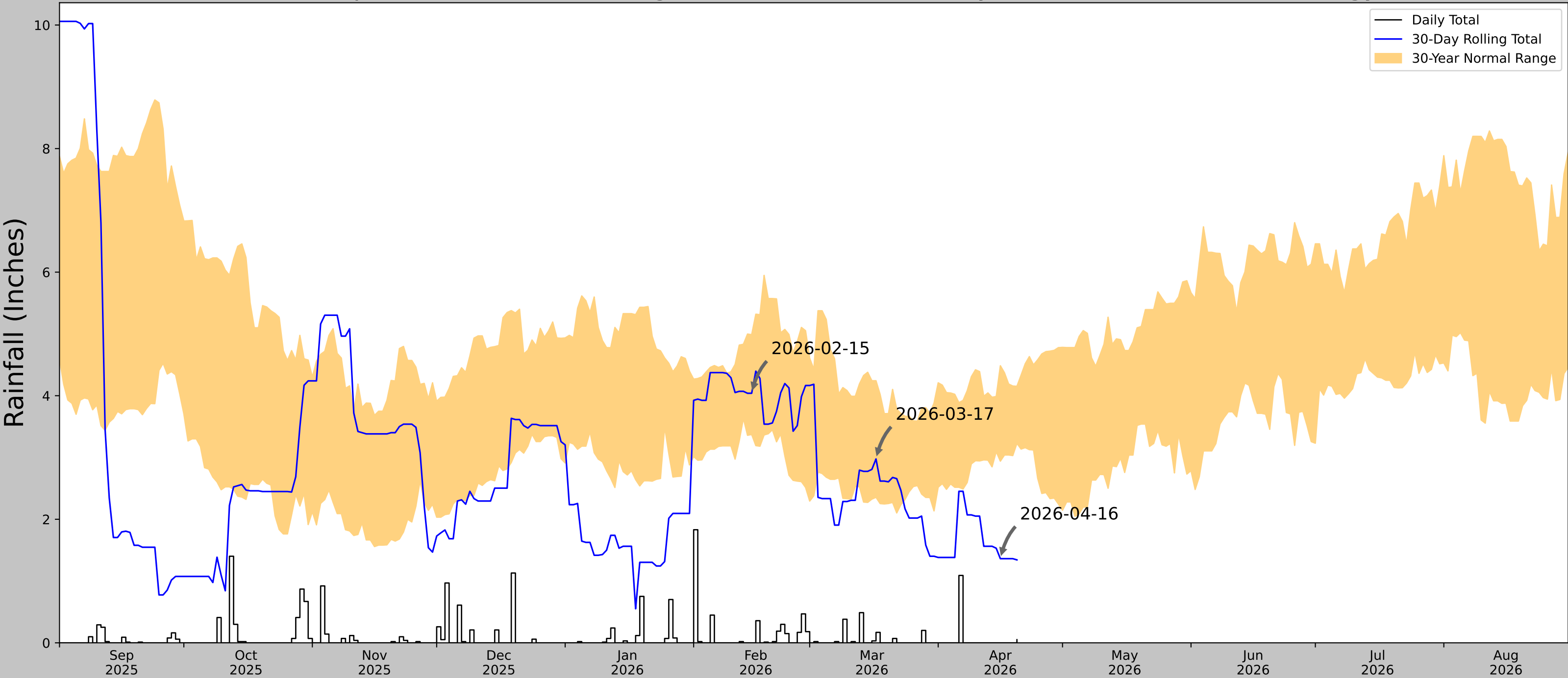
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Figures and tables made by the
Antecedent Precipitation Tool
Version 3.0

Developed by:
U.S. Army Corps of Engineers and
U.S. Army Engineer Research and
Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
COLUMBIA AG GUM NECK	35.7108, -76.1269	9.843	15.497	8.662	7.108	6127	90
FAIRFIELD	35.5361, -76.3122	4.921	15.938	4.922	7.251	774	0
NEW HOLLAND	35.4486, -76.2108	1.969	18.72	7.874	8.571	2374	0
SWANQUARTER FERRY	35.395, -76.3261	2.953	24.525	6.89	11.205	585	0
MANTEO AP	35.9172, -75.7	13.123	27.848	3.28	12.623	1436	0
EDENTON	36.0164, -76.5517	9.843	31.806	0.0	14.313	54	0
PLYMOUTH 5 E	35.8722, -76.6592	20.013	31.849	10.17	14.656	3	0

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	35.88038, -75.94592
Observation Date	2026-04-16
Elevation (ft)	1.181
Drought Index (PDSI)	Moderate drought (2026-03)
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2026-04-16	2.940158	4.485827	1.362205	Dry	1	3	3
2026-03-17	2.355118	4.242914	2.976378	Normal	2	2	4
2026-02-15	3.372441	4.987795	4.03937	Normal	2	1	2
Result							Drier than Normal - 9



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Antecedent Precipitation Tool
Version 3.0

Developed by:
U.S. Army Corps of Engineers and
U.S. Army Engineer Research and
Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
COLUMBIA AG GUM NECK	35.7108, -76.1269	9.843	15.497	8.662	7.108	6127	90
FAIRFIELD	35.5361, -76.3122	4.921	15.938	4.922	7.251	774	0
NEW HOLLAND	35.4486, -76.2108	1.969	18.72	7.874	8.571	2374	0
SWANQUARTER FERRY	35.395, -76.3261	2.953	24.525	6.89	11.205	585	0
MANTEO AP	35.9172, -75.7	13.123	27.848	3.28	12.623	1436	0
EDENTON	36.0164, -76.5517	9.843	31.806	0.0	14.313	54	0
PLYMOUTH 5 E	35.8722, -76.6592	20.013	31.849	10.17	14.656	3	0

Appendix F

Landowner Notification Letter



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

DANIEL H. JOHNSON
SECRETARY

March 25, 2026

Dear Landowner:

Subject: US 64 Wildlife Crossing Grant Project along US 64 from east of East Lake Community to east of SR 1169 (Robertson Landing Road) in Dare County, North Carolina as Project No. **HO-0027**

The N.C. Department of Transportation (Department) is constantly working to provide better and safer transportation facilities for public uses in North Carolina. The effects that these proposed facilities have on the human and natural environment are of great concern to the Department and must be adequately described in environmental documents. As part of this process, the Department is obligated to identify and document environmental resources so that impacts can be avoided and/or reduced. Streams and wetlands are two of the resources that must be identified during the review process. The Department has begun planning studies for the proposed project as described above.

Over the next several months, representatives of the Department including engineers, surveyors, geologists, and biologists as well as State and Federal environmental agencies, including the Regulatory Division of the U.S. Army Corps of Engineers, may be present on your property. They will be collecting data that will be used to design the project and conducting or verifying the limits of streams and wetlands pursuant to Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899. These representatives will be wearing safety vests, have picture ID badges, and will be placing flagging or survey markers to identify the limits of streams and wetlands, if present, on the property. These markings ***do not*** indicate the final location of a proposed transportation project, but it is very important in our planning process. Please do not disturb these markers.

Please note that if the U.S. Army Corps of Engineers has already issued a Jurisdictional Determination on your property confirming the presence of streams and/or wetlands, or if you have general questions or comments about the project, contact the **NCDOT Project Manager, Martha Hodge**, at mmhodge@ncdot.gov or (910) 707-6055, and please reference the above-mentioned project.

Thank you for your cooperation.

Appendix G

Observed Surface Water Connectivity Table

Jurisdictional Ditch ID	Observed Connections	Flow
JDA	Surface: South Lake	Flows to South Lake
JDB	Surface: JDA	Flows to JDA in PSA
JDC	Surface: JDY	Likely flows to South Lake via JDD
JDD	Surface: South Lake	Surface flow to South Lake
JDE	Surface: JDD	Flows to JDD
JDF	Surface: JDE	Stagnant during field visit, likely drains to JDE
JDG	No connections in PSA	Drains north, not flowing during field visit
JDH	No connections in PSA	Unable to discern, likely flows to South Lake
JDI	Surface: South Lake	Tidal, drains to South Lake
JDJ	Surface: South Lake	Flows to South Lake
JDK	Piped: JDL	Unable to discern, likely flows north to South Lake
JDL	Surface: JDP, JDT, JDU Piped: JDI, JDM	Drains north to South Lake via JDI
JDM	Piped: JDL	Flows to JDL
JDO	Piped: JDP	Stagnant during field visit, likely drains to JDP
JDP	Surface: JDL Piped: JDT	Flows to JDL
JDQ	Surface: JDR	Aerial shows feature flows south, flow not observed in field
JDR	Surface: JDQ	Drains to JDQ, flow not observed in field
JDS	No connections in PSA	Aerial shows feature flows south, flow not observed in field
JDT	Surface: JDL	Flows to JDL
JDU	Surface: JDL, JDT	No flow observed, has connections to canals on either end
JDV	Piped: JDW	Flows to JDW
JDW	Piped: JDV, JDX	Flows south
JDX	Piped: JDW	Flows to JDW
JDY	Surface: JDC	Tidal, observed flowing to and from JDC
JDZ	No connections in PSA	Aerial shows feature flows north, flow not observed in field
JDAA	No connections in PSA	Aerial shows feature flows north, flow not observed in field
JDAC	No connections in PSA	Aerial shows feature flows south, flow not observed in field