



4709 COLLEGE ACRES DRIVE
SUITE 2
WILMINGTON, NC 28403

TEL (910) 392-9253
FAX (910) 392-9139
czrwilm@czr-inc.com

27 September 2023

Mr. Ty Crowder
Sand Dollar Homes, LLC
1705 Ivory Gull Drive
Morehead City, NC 28557

Re: Reconnaissance and delineation of potential Section 404/401 wetland jurisdictional areas on a 27.29-acre parcel (PIN# 536518217675) near Swansboro in Onslow County, NC.

Dear Mr. Crowder

Thank you for contacting CZR Incorporated (CZR) in regard to the above referenced project. At your request CZR has completed an evaluation of wetlands and Waters of the United States (WOTUS) for an approximate 27.29-acre parcel (PIN# 536518217675) located at the intersection of Swansboro Loop Road and Rooster Run Road near Swansboro, Onslow County, NC. Fieldwork was conducted on 12 September 2023.

Background Research

Prior to field efforts online available resources were reviewed for the project area including:

- U.S. Geological Survey (USGS) 7.5 minute topographic quadrangle of Hubert, NC.
- Natural Resource Conservation Service (NRCS) published Soil Surveys of Onslow County, NC.
- Aerial photography.

Topography

The project area is generally flat. Elevations range from a low of 30 feet above mean sea level (MSL) to a high of approximately 32 feet above MSL based on a review of the USGS topographic map (Figure 1).

Soils

The NRCS Soil Survey for Onslow County depicts two mapped soil units, Onslow loamy fine sand and Rains fine sandy loam (0-2% slopes) (Figure 2). Onslow loamy fine sand is a non-hydric soil mapping unit that may contain inclusions of hydric soils. Rains fine sandy loam (0-2% slopes) is a hydric soil mapping unit.

Wetlands and Surface Waters

The project area was reviewed for the presence/absence of wetland areas in accordance with the *1987 Corps of Engineers Wetlands Delineation Manual and the Regional Supplement (Atlantic and Gulf Coast – November 2010)* and the 2023 Revised Definition of “Waters of the United States” Final Rule (September 8, 2023).

Results of Field Visit

No Section 404 jurisdictional wetlands were identified in the study area; however, three potential isolated wetlands were identified in the study. These features are surrounded by uplands with no direct connection to surface waters and appear to be isolated wetlands. Although these features are not under federal jurisdiction, they may be considered wetlands under the State’s 401 wetland jurisdiction administered by the N.C. Division of Water Resources (NCDWR). These areas were delineated in the field with sequentially numbered pink flagging (Figure 3 and Table 1).

Table 1. Summary of Results

Feature ID.	Cowardin Classification	NCWAM Classification	Regulatory Authority	Approximate Area (acres)
WA	PFO	Basin Wetland	NCDWR	0.42
WB ¹	PFO ¹	Basin Wetland ¹	NCDWR ¹	0.03
WC ¹	PFO ¹	Basin Wetland ¹	NCDWR ¹	0.21

¹ Features WB and WC lack sufficient indicators of wetland hydrology and therefore may not be classified as wetlands subject to state or federal wetland regulations.

One wetland area (WA) has evidence of wetland hydrology, hydrophytic vegetation, and hydric soils (3 parameters needed to be considered a wetland) but is surrounded by uplands with no direct connection to surface waters. Hydrologic indicators were limited to geomorphic position and vegetation that passes the FAC-Neutral Test. Soils in this area are hydric (Munsell color 2.5Y 2.5/1) along with hydrophytic vegetation including sweet bay (*Magnolia virginiana*), little-leaf titi (*Cyrilla racemiflora*), and greater bladder sedge (*Carex intumescens*).

Two additional areas (WB and WC) have evidence of hydrophytic vegetation and hydric soils but lacked evidence of wetland hydrology (only one secondary indicator of wetland hydrology was observed) and are surrounded by uplands with no direct connection to surface waters. Hydrologic indicators were limited to vegetation that passes the FAC-Neutral Test. Soils in this area are hydric (Munsell color 2.5Y 2.5/1) along with hydrophytic vegetation including red maple (*Acer rubrum*) and little-leaf titi.

Recommendations

The results of the delineation should be considered preliminary until reviewed and approved by the U.S. Army Corps of Engineers (USACE) and NCDWR. No Section 404 jurisdictional wetlands were identified in the study area and isolated depressional wetlands (potential 401 jurisdiction) were identified in the study area. Isolated wetlands are not regulated by the U.S. Army Corps of Engineers (USACE) however, isolated wetlands are regulated by NCDWR and a permit may be required from NCDWR for any potential impacts to isolated wetlands. Depending on your plans, and if needed and/or requested; CZR can coordinate with the USACE to seek concurrence for the field delineation. We recommend your surveyor/builder document the wetland/upland boundary and evaluate options for use.

Please contact us with any questions or items you wish to discuss. We appreciate the opportunity to assist you with this project.

Sincerely,

CZR INCORPORATED



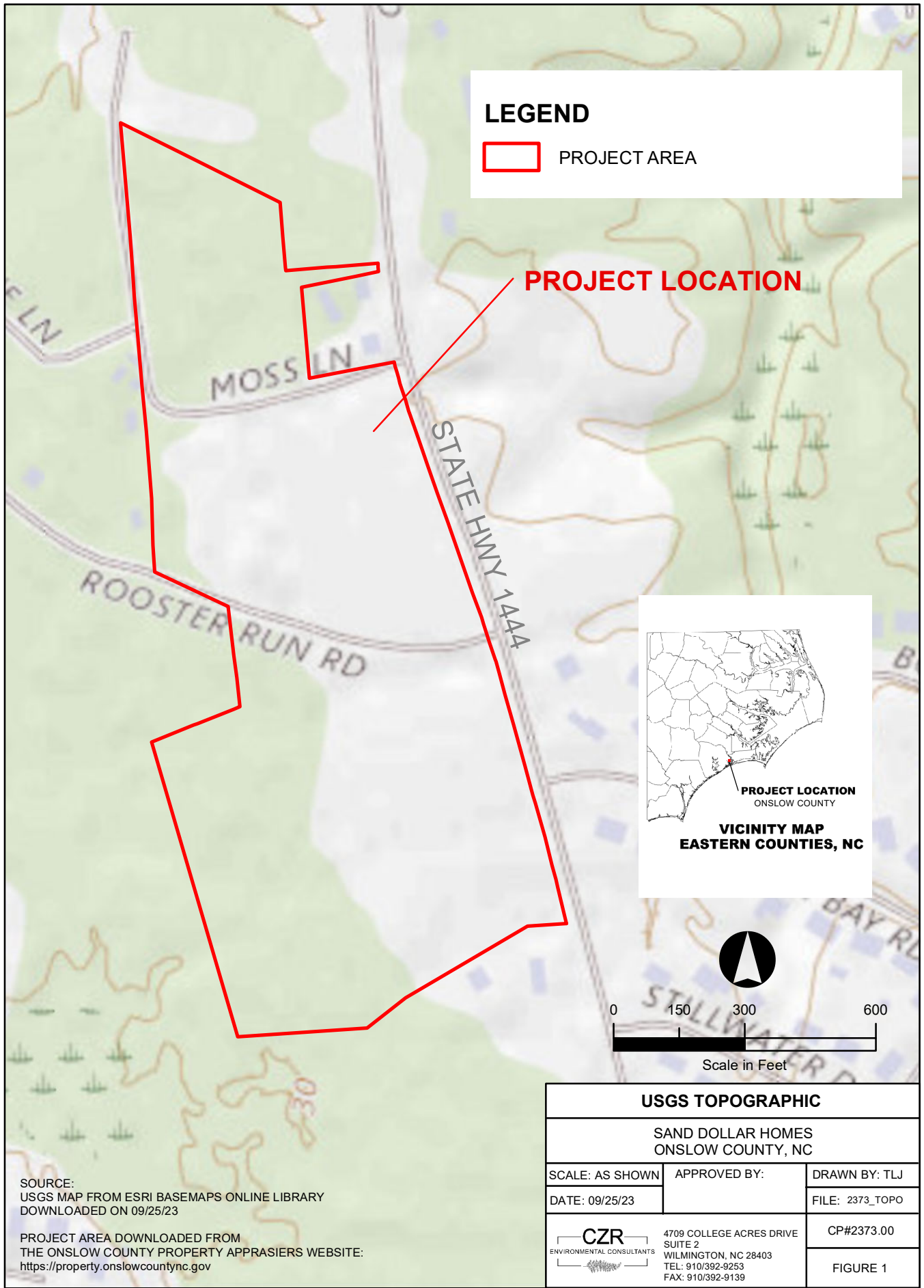
Matt Smith
Senior Environmental Scientist
Wilmington, NC

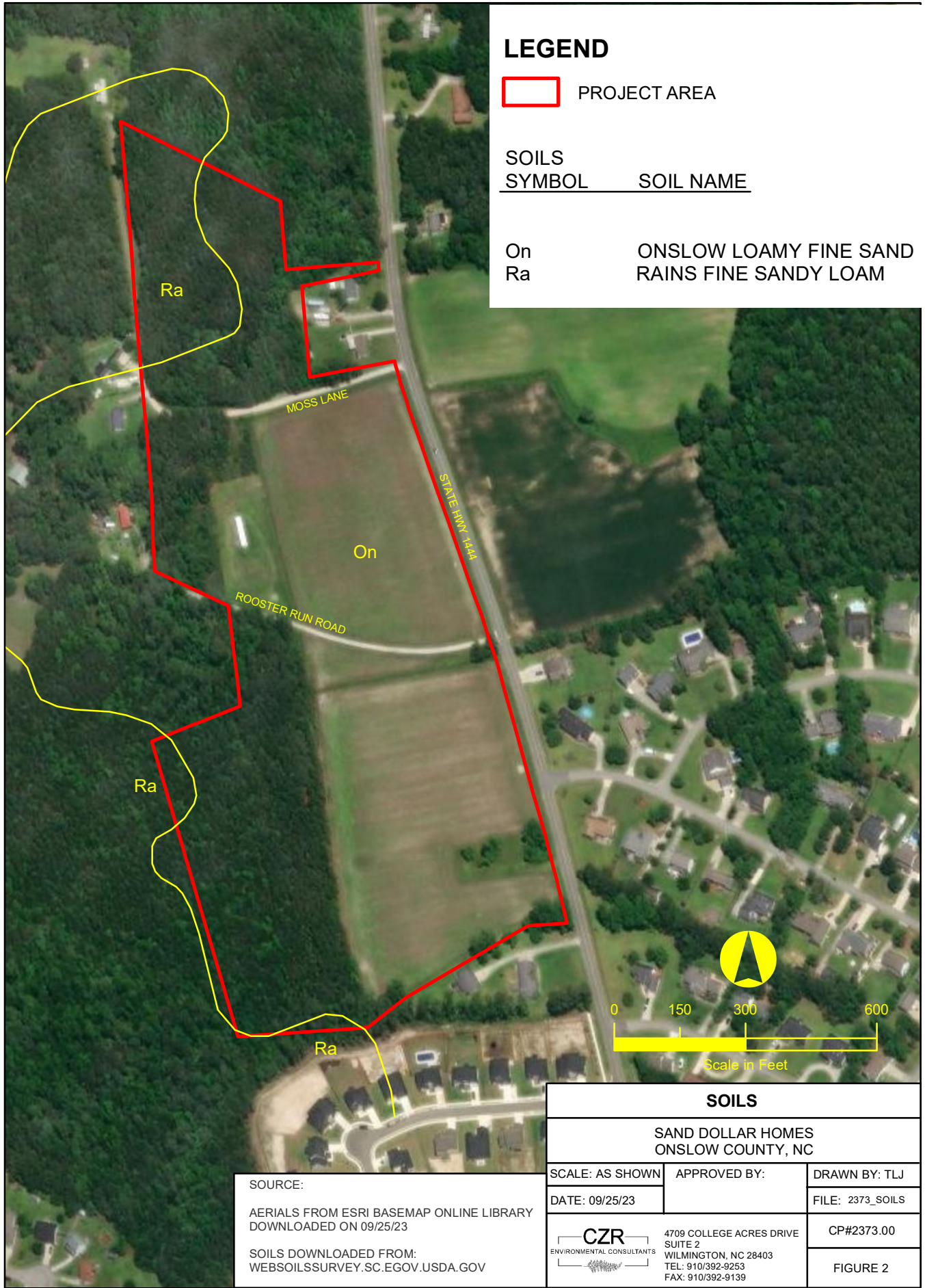
CP# 2373

CC: Sam Cooper, CZR Incorporated

Attachments:

- Figures (1-topo, 2-soils, 3-wetland delineation results)
- Routine onsite data forms of site conditions
- Characteristic photos of the site






LEGEND

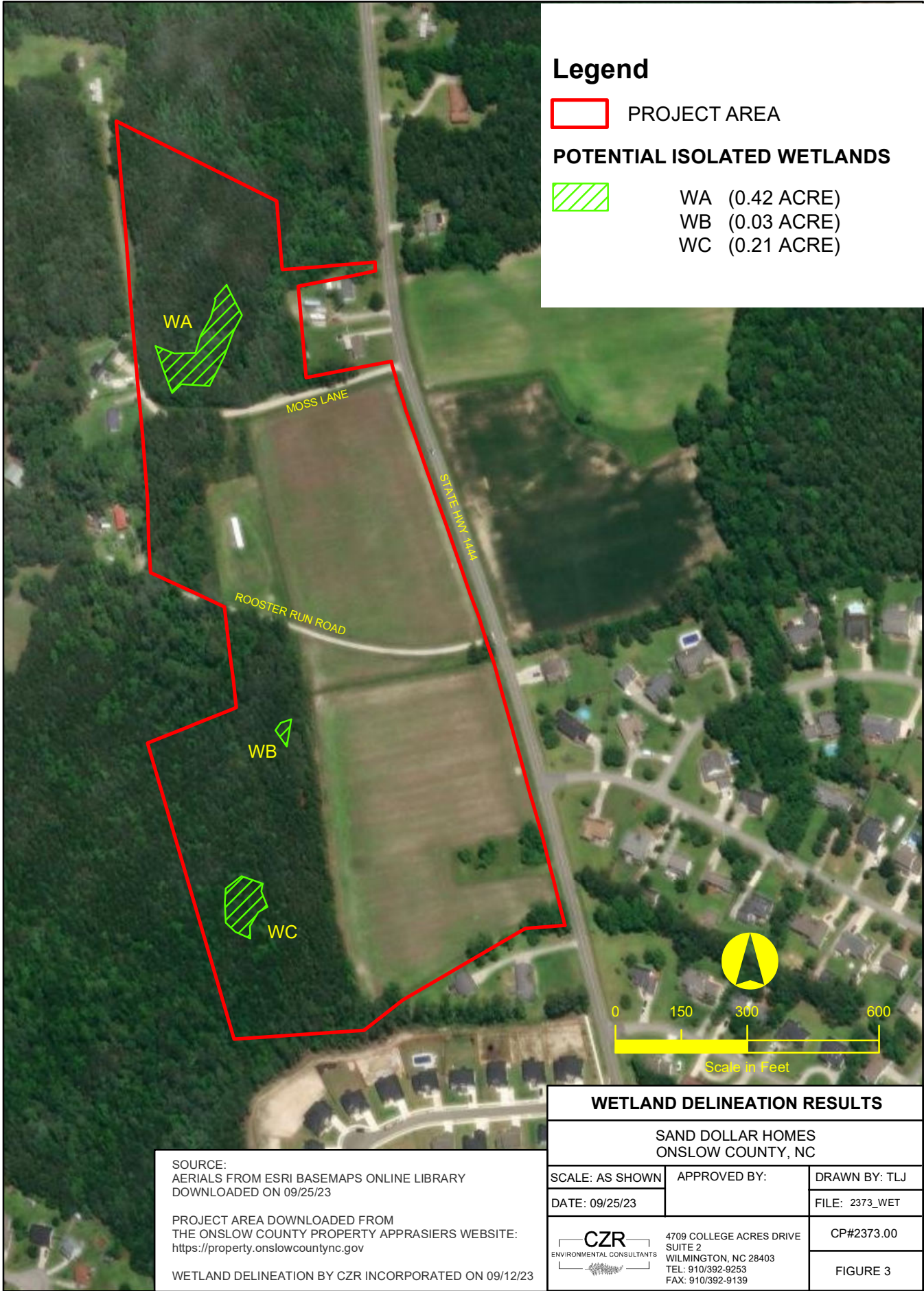
 PROJECT AREA

SOILS
SYMBOL SOIL NAME

On ONSLOW LOAMY FINE SAND
 Ra RAINS FINE SANDY LOAM

SOURCE:
 AERIALS FROM ESRI BASEMAP ONLINE LIBRARY
 DOWNLOADED ON 09/25/23
 SOILS DOWNLOADED FROM:
 WEBSOILSSURVEY.SC.EGOV.USDA.GOV

SOILS		
SAND DOLLAR HOMES ONSLow COUNTY, NC		
SCALE: AS SHOWN	APPROVED BY:	DRAWN BY: TLJ
DATE: 09/25/23		FILE: 2373_SOILS
	4709 COLLEGE ACRES DRIVE SUITE 2 WILMINGTON, NC 28403 TEL: 910/392-9253 FAX: 910/392-9139	CP#2373.00
		FIGURE 2



Legend

PROJECT AREA

POTENTIAL ISOLATED WETLANDS

WA (0.42 ACRE)
 WB (0.03 ACRE)
 WC (0.21 ACRE)

SOURCE:
 AERIALS FROM ESRI BASEMAPS ONLINE LIBRARY
 DOWNLOADED ON 09/25/23

PROJECT AREA DOWNLOADED FROM
 THE ONSLOW COUNTY PROPERTY APPRAISERS WEBSITE:
<https://property.onslowcountync.gov>

WETLAND DELINEATION BY CZR INCORPORATED ON 09/12/23

WETLAND DELINEATION RESULTS		
SAND DOLLAR HOMES ONSLOW COUNTY, NC		
SCALE: AS SHOWN	APPROVED BY:	DRAWN BY: TLJ
DATE: 09/25/23		FILE: 2373_WET
	4709 COLLEGE ACRES DRIVE SUITE 2 WILMINGTON, NC 28403 TEL: 910/392-9253 FAX: 910/392-9139	CP#2373.00
		FIGURE 3

Project/Site: Sand Dollar Homes Site City/County: Onslow Sampling Date: 9/12/2023
 Applicant/Owner: Sand Dollar Homes, LLC State: NC Sampling Point: wetland
 Investigator(s): CZR MKS Section, Township, Range: NA
 Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR or MLRA): LRR T, MLRA 153A Lat: 34.703374 Long: -77.128087 Datum: WGS 84
 Soil Map Unit Name: Rains fine sandy loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:
 According to the Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network, the site conditions were normal at the time of the field work.

HYDROLOGY

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

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30x30 ft</u>)				
1. <u><i>Pinus taeda</i></u>	<u>20</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) Prevalence Index worksheet: Total % Cover of: <u>65</u> Multiply by: _____ OBL species <u>4</u> x 1 = <u>4</u> FACW species <u>55</u> x 2 = <u>110</u> FAC species <u>82</u> x 3 = <u>246</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>141</u> (A) <u>360</u> (B) Prevalence Index = B/A = <u>2.55</u>
2. <u><i>Liquidambar styraciflua</i></u>	<u>5</u>	<u>No</u>	<u>FAC</u>	
3. <u><i>Magnolia virginiana</i></u>	<u>5</u>	<u>No</u>	<u>FACW</u>	
4. <u><i>Acer rubrum</i></u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>	
5. <u><i>Cyrilla racemiflora</i></u>	<u>5</u>	<u>No</u>	<u>FACW</u>	
6. _____				
7. _____				
8. _____				
<u>65</u> =Total Cover				
50% of total cover: <u>33</u>		20% of total cover: <u>13</u>		
Sapling/Shrub Stratum (Plot size: <u>30x30ft</u>)				
1. <u><i>Cyrilla racemiflora</i></u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u><i>Acer rubrum</i></u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	
3. <u><i>Liquidambar styraciflua</i></u>	<u>5</u>	<u>No</u>	<u>FAC</u>	
4. <u><i>Persea borbonia</i></u>	<u>10</u>	<u>Yes</u>	<u>FACW</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>30x30ft</u>)				
1. <u><i>Osmunda spectabilis</i></u>	<u>2</u>	<u>No</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>Pinus taeda</i></u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	
3. <u><i>Woodwardia virginica</i></u>	<u>2</u>	<u>No</u>	<u>OBL</u>	
4. <u><i>Carex intumescens</i></u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>	
5. <u><i>Acer rubrum</i></u>	<u>2</u>	<u>No</u>	<u>FAC</u>	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>31</u> =Total Cover				
50% of total cover: <u>16</u>		20% of total cover: <u>7</u>		
Woody Vine Stratum (Plot size: <u>30x30ft</u>)				
1. <u><i>Smilax laurifolia</i></u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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: wetland

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		
0-14	2.5Y 2.5/1	100					Loamy/Clayey	
14-20	10YR 5/1	90	10YR 6/8	10	C	PL	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)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) (LRR P, T, U)
- 5 cm Mucky Mineral (A7) (LRR P, T, U)
- Muck Presence (A8) (LRR U)
- 1 cm Muck (A9) (LRR P, T)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) (MLRA 150A)
- Sandy Mucky Mineral (S1) (LRR O, S)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)
- Polyvalue Below Surface (S8) (LRR S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- 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) (outside MLRA 150A)
- 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)
- Barrier Islands Low Chroma Matrix (TS7) (MLRA 153B, 153D)
- 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:

Project/Site: Sand Dollar Homes Site City/County: Onslow Sampling Date: 9/12/2023
 Applicant/Owner: Sand Dollar Homes, LLC State: NC Sampling Point: upland
 Investigator(s): CZR MKS Section, Township, Range: NA
 Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): <1
 Subregion (LRR or MLRA): LRR T, MLRA 153A Lat: 34.703529 Long: -77.127862 Datum: WGS 84
 Soil Map Unit Name: Rains fine sandy loam NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (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:
 According to the Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network, the site conditions were normal at the time of the field work.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> 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: upland

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30x30ft</u>)				
1. <u><i>Pinus taeda</i></u>	<u>50</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>30</u>	<u>Yes</u>	<u>FAC</u>	
3. <u><i>Acer rubrum</i></u>	<u>10</u>	<u>No</u>	<u>FAC</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
<u>90</u> =Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>170</u> x 3 = <u>510</u> FACU species <u>0</u> x 4 = <u>0</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>
50% of total cover: <u>45</u>		20% of total cover: <u>18</u>		
Sapling/Shrub Stratum (Plot size: <u>30x30ft</u>)				
1. <u><i>Liquidambar styraciflua</i></u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> <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>Acer rubrum</i></u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	
3. <u><i>Persea borbonia</i></u>	<u>5</u>	<u>No</u>	<u>FACW</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
<u>45</u> =Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: <u>23</u>		20% of total cover: <u>9</u>		
Herb Stratum (Plot size: <u>30x30ft</u>)				
1. <u><i>Pinus taeda</i></u>	<u>10</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>Smilax rotundifolia</i></u>	<u>5</u>	<u>No</u>	<u>FAC</u>	
3. <u><i>Gelsemium sempervirens</i></u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	
4. <u><i>Liquidambar styraciflua</i></u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>35</u> =Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
50% of total cover: <u>18</u>		20% of total cover: <u>7</u>		
Woody Vine Stratum (Plot size: <u>30x30ft</u>)				
1. <u><i>Vitis rotundifolia</i></u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	
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: upland

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		
0-12	10YR 3/2	100					Loamy/Clayey
12-14	10YR 3/4	95	10YR 3/2	5			Loamy/Clayey
14-20	2.5Y 5/2	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.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) **(LRR P, T, U)**
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- Muck Presence (A8) **(LRR U)**
- 1 cm Muck (A9) **(LRR P, T)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) **(MLRA 150A)**
- Sandy Mucky Mineral (S1) **(LRR O, S)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**
- Polyvalue Below Surface (S8) **(LRR S, T, U)**
- Thin Dark Surface (S9) **(LRR S, T, U)**
- 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) **(outside MLRA 150A)**
- 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)**
- Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- 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:

Site Photos



Photo 1 – View of isolated wetland feature (WA) on 12 September 2023.



Photo 2 – View of upland adjacent to isolated wetland feature (WA) on 12 September 2023.



Photo 3 – View of non-wetland feature (WB) on 12 September 2023.



Photo 4 – View adjacent to non-wetland feature (WB) on 12 September 2023.



Photo 5 – View of non-wetland feature (WC) on 12 September 2023.



Photo 6 – View adjacent to non-wetland feature (WC) on 12 September 2023.