

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: B-5707 City/County: Bladen Sampling Date: 3/22/2016
 Applicant/Owner: NCDOT State: NC Sampling Point: wa2Wet
 Investigator(s): ESI, Stuart Bryan, Kevin Murphrey Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): bottomland Local relief (concave, convex, none): concave Slope (%): 1-5
 Subregion (LRR or MLRA): T Lat: 34.6171 Long: -78.8009 Datum: WGS 84
 Soil Map Unit Name: Dorovan muck NWI classification: PFO

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 _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ☒ Surface Water (A1) ☐ Aquatic Fauna (B13) ☒ High Water Table (A2) ☐ Marl Deposits (B15) (LRR U) ☒ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1) ☒ Water Marks (B1) ☐ Oxidized Rhizospheres along Living Roots (C3) ☐ Sediment Deposits (B2) ☐ Presence of Reduced Iron (C4) ☒ Drift Deposits (B3) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface (C7) ☐ Iron Deposits (B5) ☐ Other (Explain in Remarks) ☒ Inundation Visible on Aerial Imagery (B7) ☒ Water-Stained Leaves (B9)		<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 _____ Depth (inches): <u>1-6</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

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

 Sampling Point: Wa2 wet

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Pinus taeda</u>	10	No	FAC
2. <u>Nyssa biflora</u>	15	No	OBL
3. <u>Acer rubrum</u>	25	Yes	FAC
4. <u>Liquidambar styraciflua</u>	30	Yes	FAC
5. <u>Gordonia lasianthus</u>	5	No	FACW
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____

85 = Total Cover

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

<u>Sapling/Shrub Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Nyssa biflora</u>	4	No	OBL
2. <u>Acer rubrum</u>	10	Yes	FAC
3. <u>Liquidambar styraciflua</u>	8	Yes	FAC
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____

22 = Total Cover

50% of total cover: 11 20% of total cover: 4.4

<u>Herb Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Ilex coriacea</u>	6	Yes	FACW
2. <u>Vaccinium corymbosum</u>	5	Yes	FACW
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

11 = Total Cover

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

<u>Woody Vine Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Smilax laurifolia</u>	4	Yes	FACW
2. <u>Gelsemium sempervirens</u>	3	Yes	FAC
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

7 = Total Cover

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

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

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 (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species _____ x 4 = _____

UPL species _____ x 5 = _____

Column Totals: _____ (A) _____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
☒ 1 - Rapid Test for Hydrophytic Vegetation

☐ 2 - Dominance Test is >50%

☐ 3 - Prevalence Index is ≤3.0¹
☐ 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 _____

SOIL

Sampling Point: Wa2 wet

[illegible]

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: B-5707 City/County: Bladen Sampling Date: 3/22/2016
 Applicant/Owner: NCDOT State: NC Sampling Point: Wa2 up
 Investigator(s): ESI Stuart Bryan, Kevin Murphrey Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): convex Slope (%): 1-5
 Subregion (LRR or MLRA): T Lat: 34.6171 Long: -78.8009 Datum: WGS 84
 Soil Map Unit Name: Dorovan much NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil X, or Hydrology X 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 _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Road shoulder on bridge approach	

HYDROLOGY

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

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

 Sampling Point: Wa2 up

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Pinus taeda</u>	<u>70</u>	<u>Yes</u>	<u>FAC</u>	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%</u> (A/B)
2. <u>Persea palustris</u>	<u>4</u>	<u>No</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>74</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
50% of total cover: <u>37</u> 20% of total cover: <u>14.8</u>				
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Persea palustris</u>	<u>7</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>Acer rubrum</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>12</u> = Total Cover				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)
50% of total cover: <u>6</u> 20% of total cover: <u>2.4</u>				
Herb Stratum (Plot size: _____)				
1. <u>Persea palustris</u>	<u>7</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>Magnolia virginiana</u>	<u>4</u>	<u>Yes</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>11</u> = Total Cover				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.
50% of total cover: <u>5.5</u> 20% of total cover: <u>2.2</u>				
Woody Vine Stratum (Plot size: _____)				
1. <u>Gelsemium sempervirens</u>	<u>3</u>	<u>Yes</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>3</u> = Total Cover				
50% of total cover: <u>1.5</u> 20% of total cover: <u>0.6</u>				
Remarks: (If observed, list morphological adaptations below).				Hydrophytic Vegetation Present? Yes <u>x</u> No _____

SOIL

Sampling Point: Wa2up

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		
0-5	10YR 3/1	100		60	MS	Loamy sand	40% uncoated
5-14	10YR 5/4					sand	
14-18	10YR 5/6					sand	

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

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>
Remarks:	