

WETLAND RATING WORKSHEET Fourth Version

Project Name B-5699 Nearest Road Sam Potts Hwy
 County Columbus Wetland area 2.4 acres Wetland width 40 feet
 Name of evaluator J. Harbour Date 2-11-16

Wetland location

☐ on pond or lake
☒ on perennial stream
☐ on intermittent stream
☐ within interstream divide
☐ other: _____

Adjacent land use

(within 1/2 mile upstream, upslope, or radius)
☒ forested/natural vegetation 80 %
☒ agriculture, urban/suburban 10 %
☒ impervious surface 10 %

Soil series: Megett f.s. loam

☐ predominantly organic - humus, muck, or peat
☒ predominantly mineral - non-sandy
☐ predominantly sandy

Dominant vegetation

(1) Typha latifolia
 (2) Juncus effusus
 (3) Sambucus nigra
 (4) Acer rubrum

Hydraulic factors

☐ steep topography
☐ ditched or channelized
☐ total wetland width ≥ 100 feet

Flooding and wetness

☐ semipermanently to permanently flooded or inundated
☒ seasonally flooded or inundated
☐ intermittently flooded or temporary surface water
☐ no evidence of flooding or surface water

Wetland type (select one)*

☐ Bottomland hardwood forest
☐ Headwater forest
☒ Swamp forest
☐ Wet flat
☐ Pocosin
☐ Bog forest

☐ Pine savanna
☐ Freshwater marsh
☐ Bog/fen
☐ Ephemeral wetland
☐ Carolina bay
☐ Other: _____

* The rating system cannot be applied to salt or brackish marshes or stream channels

R	Water storage	<u>3</u>	x 4.00 =	<u>12</u>	Wetland rating 51
A	Bank/Shoreline stabilization	<u>3</u>	x 4.00 =	<u>12</u>	
T	Pollutant removal	<u>2</u>	x 5.00 =	<u>10</u>	
I	Wildlife habitat	<u>1</u>	x 2.00 =	<u>2</u>	
N	Aquatic life value	<u>2</u>	x 4.00 =	<u>8</u>	
G	Recreation/Education	<u>1</u>	x 1.00 =	<u>1</u>	

** Add 1 point if in sensitive watershed and >10% nonpoint source disturbance within 1/2 mile upstream, upslope, or radius

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: B-5699 City/County: Columbus Sampling Date: 2-11-16
 Applicant/Owner: NCOT State: NC Sampling Point: WB 3up
 Investigator(s): J. Harbour Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): CONVEX Slope (%): 4
 Subregion (LRR or MLRA): P Lat: 34.3220 Long: -78.4703 Datum: NAD 83
 Soil Map Unit Name: Meggett f.s. loam (road fill) NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Hydric Soil Present? Yes _____ No _____	
Wetland Hydrology Present? Yes _____ No _____	
Remarks: <u>Above normal rainfall; high water conditions at time of delineation</u> <u>WA/WB</u>	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) ☐ 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)		Secondary Indicators (minimum of two required) ☐ Surface Soil Cracks (B6) ☐ Sparsely Vegetated Concave Surface (B8) ☐ Drainage Patterns (B10) ☐ Moss Trim Lines (B16) ☐ Dry-Season Water Table (C2) ☐ Crayfish Burrows (C8) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes _____ No ☒ Depth (inches): _____ Water Table Present? Yes _____ No ☒ Depth (inches): <u>220</u> Saturation Present? Yes _____ No ☒ Depth (inches): <u>220</u> (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No ☒	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <u>side slope of road fill located on causeway</u>		

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

Sampling Point: WB 3 up

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>none</u>			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			

0 = Total Cover

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

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>none</u>			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			

0 = Total Cover

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

Herb Stratum (Plot size: <u>20x20</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Liriod. grass</u>	<u>60</u>	<u>Y</u>	<u>-</u>
2. <u>Solidago altissima</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
3. <u>Asplenium platyneuron</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
12. _____			

75 = Total Cover

50% of total cover: 37.5 20% of total cover: 15

Woody Vine Stratum (Plot size: <u>20x20</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Lonicera japonica</u>	<u>5</u>	<u>✓</u>	<u>FACU</u>
2. _____			
3. _____			
4. _____			
5. _____			

5 = Total Cover

50% of total cover: 2.5 20% of total cover: 1

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☐ 1 - Rapid Test for Hydrophytic Vegetation

☐ 2 - Dominance Test is >50%

☐ 3 - Prevalence Index is ≤3.0¹

☐ 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 _____ No ✓

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

SOIL

Sampling Point: WB 3 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					sandy loam	
2-20	10YR 3/4	95	10YR 4/6	5	C	M	sandy loam	disturbed profile from historic fill for causeway

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) | ☐ Polyvalue Below Surface (S8) (LRR S, T, U) | ☐ 1 cm Muck (A9) (LRR O) |
| ☐ Histic Epipedon (A2) | ☐ Thin Dark Surface (S9) (LRR S, T, U) | ☐ 2 cm Muck (A10) (LRR S) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (LRR O) | ☐ Reduced Vertic (F18) (outside MLRA 150A,B) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) | ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T) |
| ☐ Stratified Layers (A5) | ☐ Depleted Matrix (F3) | ☐ Anomalous Bright Loamy Soils (F20) |
| ☐ Organic Bodies (A6) (LRR P, T, U) | ☐ Redox Dark Surface (F6) | (MLRA 153B) |
| ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U) | ☐ Depleted Dark Surface (F7) | ☐ Red Parent Material (TF2) |
| ☐ Muck Presence (A8) (LRR U) | ☐ Redox Depressions (F8) | ☐ Very Shallow Dark Surface (TF12) |
| ☐ 1 cm Muck (A9) (LRR P, T) | ☐ Marl (F10) (LRR U) | ☐ Other (Explain in Remarks) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Ochric (F11) (MLRA 151) | |
| ☐ Thick Dark Surface (A12) | ☐ Iron-Manganese Masses (F12) (LRR O, P, T) | |
| ☐ Coast Prairie Redox (A16) (MLRA 150A) | ☐ 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 Loamy Soils (F20) (MLRA 149A, 153C, 153D) | |
| ☐ Dark Surface (S7) (LRR P, S, T, U) | | |

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:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: B-5699 City/County: Columbus Sampling Date: 2-11-16
 Applicant/Owner: NCDOT State: NC Sampling Point: WB3 wet
 Investigator(s): J. Harbour Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR or MLRA): P Lat: 34.3220 Long: -78.4703 Datum: NAD83
 Soil Map Unit Name: Meggett f.s. loam; freq. flooded NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ☒ No _____	Is the Sampled Area within a Wetland? Yes ☒ No _____
Hydric Soil Present? Yes ☒ No _____	
Wetland Hydrology Present? Yes ☒ No _____	
Remarks: <u>Above normal rainfall; high water conditions at time of delineation</u> <u>WA/WB</u>	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) ☒ 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)		Secondary Indicators (minimum of two required) ☐ Surface Soil Cracks (B6) ☐ Sparsely Vegetated Concave Surface (B8) ☒ Drainage Patterns (B10) ☐ Moss Trim Lines (B16) ☐ Dry-Season Water Table (C2) ☐ Crayfish Burrows (C8) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☒ FAC-Neutral Test (D5) ☐ Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes ☒ No _____ Depth (inches): <u>4</u> Water Table Present? Yes ☒ No _____ Depth (inches): <u>surf.</u> Saturation Present? Yes ☒ No _____ Depth (inches): <u>surf.</u> (includes capillary fringe)		Wetland Hydrology Present? Yes ☒ No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

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

Sampling Point: WB 3 wet

Tree Stratum (Plot size: <u>30x30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____

50% of total cover: 10 20% of total cover: 4
20 = Total Cover

Sapling/Shrub Stratum (Plot size: <u>20x20</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer rubrum</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>
2. <u>Sambucus nigra</u>	<u>3</u>	<u>Y</u>	<u>FACW</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____

50% of total cover: 2.5 20% of total cover: 1
5 = Total Cover

Herb Stratum (Plot size: <u>20x20</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Typha latifolia</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>
2. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

50% of total cover: 17.5 20% of total cover: 7
35 = Total Cover

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>None</u>	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

50% of total cover: _____ 20% of total cover: _____
0 = Total Cover

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

Dominance Test worksheet:	
Number of Dominant Species That Are OBL, FACW, or FAC:	<u>4</u> (A)
Total Number of Dominant Species Across All Strata:	<u>4</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)

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

Hydrophytic Vegetation Indicators:	
☐ 1 - Rapid Test for Hydrophytic Vegetation	
☒ 2 - Dominance Test is >50%	
☐ 3 - Prevalence Index is ≤3.0 ¹	
☐ Problematic Hydrophytic Vegetation ¹ (Explain)	

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 ☒ No ☐

Sampling Point: WB 3 wet

Sampling Point: WB 3 wet

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| ☐ Histosol (A1) | ☐ Polyvalue Below Surface (S8) (LRR S, T, U) | ☐ 1 cm Muck (A9) (LRR O) |
| ☐ Histic Epipedon (A2) | ☐ Thin Dark Surface (S9) (LRR S, T, U) | ☐ 2 cm Muck (A10) (LRR S) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (LRR O) | ☐ Reduced Vertic (F18) (outside MLRA 150A,B) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) | ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T) |
| ☐ Stratified Layers (A5) | ☒ Depleted Matrix (F3) | ☐ Anomalous Bright Loamy Soils (F20)
(MLRA 153B) |
| ☐ Organic Bodies (A6) (LRR P, T, U) | ☐ Redox Dark Surface (F6) | ☐ Red Parent Material (TF2) |
| ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U) | ☐ Depleted Dark Surface (F7) | ☐ Very Shallow Dark Surface (TF12) |
| ☐ Muck Presence (A8) (LRR U) | ☐ Redox Depressions (F8) | ☐ Other (Explain in Remarks) |
| ☐ 1 cm Muck (A9) (LRR P, T) | ☐ Marl (F10) (LRR U) | |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Ochric (F11) (MLRA 151) | |
| ☐ Thick Dark Surface (A12) | ☐ Iron-Manganese Masses (F12) (LRR O, P, T) | ³ Indicators of hydrophytic vegetation and
wetland hydrology must be present,
unless disturbed or problematic. |
| ☐ Coast Prairie Redox (A16) (MLRA 150A) | ☐ 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 Loamy Soils (F20) (MLRA 149A, 153C, 153D) | |
| ☐ Dark Surface (S7) (LRR P, S, T, U) | | |

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

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: