

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: SERP City/County: NA/Prince Edward Sampling Date: 08/02/2014
 Applicant/Owner: DOMINION State: _____ Sampling Point: WPEK001E_W
 Investigator(s): W. Medina, J. Dean Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Seepage slope Local relief (concave, convex, none): Concave Slope (%): 5
 Subregion (LRR or MLRA): LRR P Lat: 37.314547606 Long: -78.291543922 Datum: NAD 1983
 Soil Map Unit Name: Wilkes sandy loam, severely eroded hilly phase (Wk) NWI classification: PEMIC
 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 _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: <u>This area is a seepage slope system w/ clearcut land surrounding. Adjacent land disturbance may have caused excess sedimentation in this drainage. All 3 criteria met.</u> <u>PHOTOS #100-0409 to 0413 soils, N, E, SW (w/ camera)</u>	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>NA</u> Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): <u>NA</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: <u>NA</u>	
Remarks: <u>Hydrology criteria met.</u>	

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

Sampling Point: WPEROSIE-W

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>NA</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)
2.				Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4.				
5.				
6.				
7.				
_____ = Total Cover				
Sapling Stratum (Plot size: <u>15 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>NA</u>				Total % Cover of: _____ Multiply by:
2.				OBL species _____ x 1 =
3.				FACW species _____ x 2 =
4.				FAC species _____ x 3 =
5.				FACU species _____ x 4 =
6.				UPL species _____ x 5 =
7.				Column Totals: _____ (A) _____ (B)
_____ = Total Cover				Prevalence Index = B/A =
Shrub Stratum (Plot size: <u>15 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Salix nigra</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	<input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2.				<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
3.				<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4.				<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
6.				
7.				
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>10 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of Five Vegetation Strata:
1. <u>Juncus effusus</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>	Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
2. <u>Scirpus cyperinus</u>	<u>65</u>	<u>Y</u>	<u>OBL</u>	Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
3. <u>Symphoricarpon pilosum</u>	<u>10</u>		<u>FAC</u>	Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
4. <u>Dichanthelium clandestinum</u>	<u>25</u>		<u>FAC</u>	Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
5. <u>Typha latifolia</u>	<u>10</u>		<u>OBL</u>	Woody vine – All woody vines, regardless of height.
6. <u>Liriodendron tulipifera</u>	<u>15</u>		<u>FACU</u>	
7. <u>Rubus arvensis</u>	<u>20</u>		<u>FAC</u>	
8. <u>Galium aparine</u>	<u>10</u>		<u>FAC</u>	
9. <u>Salix nigra</u>	<u>10</u>		<u>OBL</u>	
10. <u>Solidago canadensis</u>	<u>20</u>		<u>FACU</u>	
11. <u>Fragaria virginiana</u>	<u>5</u>		<u>FACU</u>	
12.				
_____ = Total Cover				
Woody Vine Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?
1. <u>NA</u> <u>Mikania scandens</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.				
3.				
4.				
5.				
_____ = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet.)

Hydrophytic vegetation criteria is met.

SOIL

Sampling Point: WPEK001E_W

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

Depth (inches)	Matrix		Redox Features			Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%					
0-4	10YR 3/2	95	10YR 5/8	5	C	M	Sandy clay loam		
4-7	10YR 5/3	75	7.5YR 5/8	25	C	M	Sandy clay loam		
7-16	10YR 5/1	60	5YR 5/8	40	C	PL	sandy clay loam		
16-20	10YR 5/4	85	10YR 5/6	15	C	M/PL	Sandy clay loam		

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

Restrictive Layer (if observed): Type: <u>N/A</u> Depth (inches): <u>N/A</u>	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks: Hydric soils criteria met. Evidence of possible historic sedimentation due to land clearing activities.



Wetland data point wpek001e_w facing East



Wetland data point wpek001e_w facing West



Wetland data point wpek001e_w soil sample

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: SE Reliability Project City/County: NA/Prince Edward Sampling Date: 08/02/2014
 Applicant/Owner: Dominion Transmission State: VA Sampling Point: WPEK001_u
 Investigator(s): W. Medlin, J. Dean Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 5-8
 Subregion (LRR or MLRA): LRR P Lat: 37.314505879 Long: -78.291638606 Datum: NAD 1983
 Soil Map Unit Name: Wilkes sandy loam, severely eroded hilly phase (Wk) NWI classification: Upland
 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 type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>This area is an upland hillslope that has been cleared. All 3 criteria are not met.</u> <u>PHOTOS #100 - 0418 to 0422 soils, N, E, S, W (wcm camera)</u>	

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"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<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 type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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 type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: <u>NA</u>	
Remarks: <u>Hydrology criteria is not met.</u>	

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

Sampling Point WPK001-U

Tree Stratum (Plot size: <u>30 Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>NA</u>			
2.			
3.			
4.			
5.			
6.			
7.			

Sapling Stratum (Plot size: <u>15 Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>NA</u>			
2.			
3.			
4.			
5.			
6.			
7.			

Shrub Stratum (Plot size: <u>15 Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Fagus grandifolia</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>
2. <u>Carya tomentosa</u>	<u>5</u>	<u>Y</u>	<u>NI</u>
3. <u>Rubus argutus</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>
4.			
5.			
6.			
7.			

Herb Stratum (Plot size: <u>10 Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. Cynophthalmus obtusifolium	<u>2</u>		<u>NI</u>
2. <u>Liriodendron tulipifera</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>
3. <u>Andropogon virginicus</u>	<u>15</u>		<u>FACU</u>
4. <u>Solidago canadensis</u>	<u>15</u>		<u>FACU</u>
5. <u>Fupatorium capillifolium</u>	<u>10</u>		<u>FACU</u>
6. Panicum virgatum			
7. <u>Dichanthelium sp. laxiflorum</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>
8. <u>Pinus taeda</u>	<u>5</u>		<u>FAC</u>
9. <u>Cirsium horridatum ^{vulgare} carolinianum</u>	<u>5</u>		<u>FACU</u>
10. <u>Symphotrichum pilosum</u>	<u>10</u>		<u>FAC</u>
11.			
12.			

Woody Vine Stratum (Plot size: <u>30 Ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>NA</u>			
2.			
3.			
4.			
5.			

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation criteria is not met.

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (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

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes _____ No

Pseudographium

SOIL

Sampling Point *WPK001-U*

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	—	—	—	—	Sandy loam	
4-11	10YR 6/6	100	—	—	—	—	Sandy clay loam	
11-20	10YR 6/6	85	7.5YR 6/8	15	C	M ^{fine}	Sandy loam	

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed):
 Type: *N/A*
 Depth (inches): *N/A*

Hydric Soil Present? Yes No

Remarks: *Hydric soils criteria not met.*



Upland data point wpek001_u facing South



Upland data point wpek001_u facing West



Upland data point wpek001_u soil sample

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: SE Reliability Project City/County: NA/Prince Edward Sampling Date: 08/04/2014
 Applicant/Owner: Dominion Transmission State: VA Sampling Point: WPEK002E-W
 Investigator(s): W. Medlin, J. Dean Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Seepage Local relief (concave, convex, none): concave Slope (%): 0-3
 Subregion (LRR or MLRA): LRR P Lat: 37.305599120 Long: -78.282221575 Datum: NAD 1983
 Soil Map Unit Name: Vance fine sandy loam, rolling phase (Va) NWI classification: PEMIC
 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"/>
Remarks: <u>This area is a seepage slope that abuts a small intermittent stream (SPEK012). The area around the wetland/stream is a cattle pasture, but appears to have been fenced off. All 3 criteria met. Area is a wetland.</u> <u>Photos # 100-0456 to 0460 soils + N,E,S,W (w/m camera)</u>	

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"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" 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"/> Stunted or Stressed Plants (D1)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>NA</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: <u>NA</u>	

Remarks: Hydrology criteria met.

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

Sampling Point: WPEK002E_W

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>NA</u>			
2.			
3.			
4.			
5.			
6.			
7.			

Sapling Stratum (Plot size: <u>15 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>NA</u>			
2.			
3.			
4.			
5.			
6.			
7.			

Shrub Stratum (Plot size: <u>15 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Rubus arvensis</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
2. <u>Rosa multiflora</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>
3. <u>Hibiscus moscheutos</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>
4.			
5.			
6.			
7.			

Herb Stratum (Plot size: <u>10 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Hibiscus moscheutos</u>			
2. <u>Carex lurida</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>
3. <u>Juncus effusus</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>
4. <u>Mimulus ringens</u>	<u>5</u>		<u>OBL</u>
5. <u>Eupatorium perfoliatum</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>
6. <u>Carex Frankii</u>	<u>5</u>		<u>OBL</u>
7. <u>Persicaria pensylvanica</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>
8. <u>Schedonorus arundinaceus</u>	<u>5</u>		<u>FACU</u>
9.			
10.			
11.			
12.			

Woody Vine Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>NA</u>			
2.			
3.			
4.			
5.			

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 86% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>35</u>	x 1 = <u>35</u>
FACW species <u>40</u>	x 2 = <u>80</u>
FAC species <u>10</u>	x 3 = <u>30</u>
FACU species <u>15</u>	x 4 = <u>60</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>205</u> (B)

Prevalence Index = B/A = 2.05

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic Vegetation Criteria Met.

SOIL

Sampling Point: WPEK002E-W

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 3/2	100	-	-	-	-	sandy clay loam	some organic
1-8	10YR 5/1	70	7.5YR 5/8	30	C	PL	sandy clay loam	gravel in sample layer
8-20	10YR 6/3	90	10YR 5/8	10	C	M	sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147, 148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147, 148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: NA
Depth (inches): NA

Hydric Soil Present? Yes No

Remarks: Hydric soils criteria met.



Wetland data point wpek002e_w facing South



Wetland data point wpek002e_w facing West



Wetland data point wpek002e_w soil sample

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: SE Reliability Project City/County: NA/Prince Edward Sampling Date: 08/04/2014
 Applicant/Owner: Dominion Transmission State: VA Sampling Point: WPEK002-1A
 Investigator(s): W. Medlin, J. Dean Section, Township, Range: NA convex
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 2-5
 Subregion (LRR or MLRA): LRR P Lat: 37.305636734 Long: -78.282175131 Datum: NAD 1983
 Soil Map Unit Name: Vance fine sandy loam, rolling phase (va) NWI classification: Upland
 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 type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>This area is on upland hillslope in a cattle pasture, horses also in a fenced area to SE. All 3 criteria are not met. Area is not a wetland.</u> <u>Photos # 100-0461 to 0465 soils, N, E, S, W (WLM camera)</u>	

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"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <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"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>NA</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>NA</u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>NA</u> (Includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	--

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

Remarks: Hydrology criteria is not met.

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

Sampling Point: WPEK002-u

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Liriodendron tulipifera</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (AB)
4. _____				Prevalence Index worksheet: 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>0</u> x 3 = <u>0</u> FACU species <u>165</u> x 4 = <u>660</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>165</u> (A) <u>660</u> (B) Prevalence Index = B/A = <u>4.0</u>
5. _____				
6. _____				
7. _____				
<u>15</u> = Total Cover				
Sapling Stratum (Plot size: <u>15 ft</u>)				
1. <u>NA</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
_____ = Total Cover				
Shrub Stratum (Plot size: <u>15 ft</u>)				
1. <u>Rosa multiflora</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Caltha occidentalis</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>10 ft</u>)				
1. <u>Schedonorus arundinaceus</u>	<u>80</u>	<u>Y</u>	<u>FACU</u>	Definitions of Five Vegetation Strata: Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless of height.
2. <u>Eupatorium capillifolium</u>	<u>45</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Solanum carolinense</u>	<u>10</u>		<u>FACU</u>	
4. <u>Ulmus alata</u>	<u>5</u>		<u>FACU</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>140</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30 ft</u>)				
1. <u>NA</u>				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet.)

Hydrophytic vegetation criteria is not met.

SOIL

Sampling Point: WPK002-U

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 4/4	100	-	-	-	-	Sandy clay loam	
6-17	10YR 5/4	100	-	-	-	-	Sandy clay loam	
17-20	10YR 6/4	95	10YR 5/8	5	C	M	Sandy loam	

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

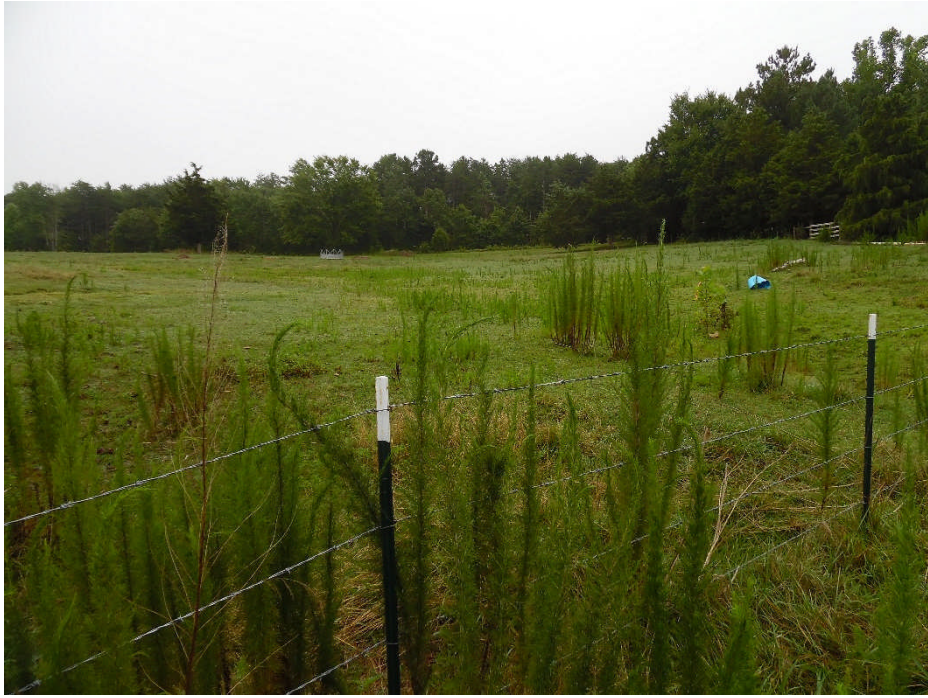
Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

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

Restrictive Layer (if observed):
 Type: NA
 Depth (inches): NA

Hydric Soil Present? Yes _____ No

Remarks:
 Hydric soils criteria is not met.



Upland data point wpek002_u facing South



Upland data point wpek002_u facing West



Upland data point wpek002_u soil sample

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Atlantic Coast Pipeline City/County: Prince Edward Sampling Date: 10/20/2014
 Applicant/Owner: Dominion State: VA Sampling Point: wpea005f_w
 Investigator(s): GB, TP Section, Township, Range: No PLSS in this area
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 1
 Subregion (LRR or MLRA): P Lat: 37.30257538 Long: -78.27102012 Datum: WGS 1984
 Soil Map Unit Name: Wilkes sandy loam, eroded hilly phase NWI classification: None

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

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

Hydrophytic Vegetation Present? Yes <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"/>
Remarks: Wetland data point for a saturated to temporarily flooded PFO wetland located on floodplain of Little Sayers Creek; the stream and upline extent of this feature is within no access tract 11-049 and could not be delineated. Only the corridor wide downline extent could be recorded.	

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"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>8</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

Sampling Point: wpea005f_w

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: <u>30</u>)					
1. <u>Platanus occidentalis</u>	<u>20</u>	<u>Yes</u>	<u>FACW</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>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
2. <u>Betula nigra</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>		
3. <u>Liquidambar styraciflua</u>	<u>10</u>	<u>No</u>	<u>FAC</u>		
4. <u>Fraxinus pennsylvanica</u>	<u>10</u>	<u>No</u>	<u>FACW</u>		
5. <u>Acer rubrum</u>	<u>10</u>	<u>No</u>	<u>FAC</u>		
6. <u>Ulmus rubra</u>	<u>10</u>	<u>No</u>	<u>FAC</u>		
7. _____	_____	_____	_____		
_____ = Total Cover 50% of total cover: <u>40</u> 20% of total cover: <u>16</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>48</u> x 1 = <u>48</u> FACW species <u>61</u> x 2 = <u>122</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>191</u> (A) <u>416</u> (B) Prevalence Index = B/A = <u>2.17</u>	
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. <u>Lindera benzoin</u>	<u>12</u>	<u>Yes</u>	<u>FAC</u>		
2. <u>Asimina triloba</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>		
3. <u>Carpinus caroliniana</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>		
4. <u>Fraxinus pennsylvanica</u>	<u>6</u>	<u>No</u>	<u>FACW</u>		
5. <u>Acer rubrum</u>	<u>5</u>	<u>No</u>	<u>FAC</u>		
6. <u>Liquidambar styraciflua</u>	<u>2</u>	<u>No</u>	<u>FAC</u>		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
_____ = Total Cover 50% of total cover: <u>22.5</u> 20% of total cover: <u>9</u>					
Herb Stratum (Plot size: <u>5</u>)					
1. <u>Glyceria striata</u>	<u>45</u>	<u>Yes</u>	<u>OBL</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"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Boehmeria cylindrica</u>	<u>5</u>	<u>No</u>	<u>FACW</u>		
3. <u>Woodwardia virginica</u>	<u>3</u>	<u>No</u>	<u>OBL</u>		
4. <u>Athyrium asplenoides</u>	<u>3</u>	<u>No</u>	<u>FAC</u>		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____ = Total Cover 50% of total cover: <u>28</u> 20% of total cover: <u>11.2</u>					
Woody Vine Stratum (Plot size: <u>30</u>)					
1. <u>Toxicodendron radicans</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 or equal to 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. _____	_____	_____	_____		
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>					
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____					
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: wpea005f_w

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	90	7.5YR 4/6	10	C	PL/M	SICL	
6-20	10YR 4/1	80	7.5YR 4/6	20	C	PL/M	SICL	

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: none _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____
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Remarks:



Photo 1
Wetland data point WPEA005f_w facing west



Photo 2
Wetland data point WPEA005f_w facing northeast

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Atlantic Coast Pipeline City/County: Prince Edward Sampling Date: 10/20/2014
 Applicant/Owner: Dominion State: VA Sampling Point: wpea005_u
 Investigator(s): GB, TP Section, Township, Range: No PLSS in this area
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): none Slope (%): 60
 Subregion (LRR or MLRA): P Lat: 37.30245003 Long: -78.27098218 Datum: WGS 1984
 Soil Map Unit Name: Wilkes sandy loam, eroded hilly phase NWI classification: None

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point on a steep sideslope above a saturated to temporarily flooded PFO wetland located on the floodplain of Little Sayers Creek	

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"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<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 type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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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 type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
no hydrology indicators

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

Sampling Point: wpea005_u

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				
1. <u>Fagus grandifolia</u>	<u>25</u>	Yes	FACU	
2. <u>Liriodendron tulipifera</u>	<u>20</u>	Yes	FACU	
3. <u>Quercus alba</u>	<u>20</u>	Yes	FACU	
4. <u>Carya cordiformis</u>	<u>10</u>	No	FACU	
5. _____				
6. _____				
7. _____				
	<u>75</u> = Total Cover			
50% of total cover: <u>37.5</u>		20% of total cover: <u>15</u>		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. <u>Fagus grandifolia</u>	<u>25</u>	Yes	FACU	
2. <u>Cornus florida</u>	<u>10</u>	Yes	FACU	
3. <u>Quercus alba</u>	<u>5</u>	No	FACU	
4. <u>Quercus rubra</u>	<u>5</u>	No	FACU	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
	<u>45</u> = Total Cover			
50% of total cover: <u>22.5</u>		20% of total cover: <u>9</u>		
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Polystichum acrostichoides</u>	<u>12</u>	Yes	FACU	
2. <u>Luzula multiflora</u>	<u>3</u>	Yes	FACU	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
	<u>15</u> = Total Cover			
50% of total cover: <u>7.5</u>		20% of total cover: <u>3</u>		
Woody Vine Stratum (Plot size: <u>30</u>)				
1. <u>Lonicera japonica</u>	<u>3</u>	No	FAC	
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>		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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>3</u>	x 3 = <u>9</u>
FACU species <u>135</u>	x 4 = <u>540</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>138</u> (A)	<u>549</u> (B)

Prevalence Index = B/A = 3.97

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

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 or equal to 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: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: wpea005_u

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 4/4	100					SL	
8-20	10YR 3/6	100					SL	

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: none _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
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Remarks:



Photo 1
Upland data point WPEA005_u facing northeast



Photo 2
Upland data point WPEA005_u facing west

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Atlantic Coast Pipeline City/County: Prince Edward Sampling Date: 10/17/2014
 Applicant/Owner: Dominion State: VA Sampling Point: wpea001f_w
 Investigator(s): GB, LE Section, Township, Range: No PLSS in this area
 Landform (hillslope, terrace, etc.): draw Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR or MLRA): P Lat: 37.2996208 Long: -78.26357587 Datum: WGS 1984
 Soil Map Unit Name: Madison clay loam, eroded hilly phase NWI classification: None

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

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

Hydrophytic Vegetation Present? Yes <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"/>
Remarks: Wetland data point for a saturated PFO wetland located at the confluence of intermittent streams spea001 & spea002	

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"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" 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"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>3</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

Sampling Point: wpea001f_w

	Absolute % Cover	Dominant Species?	Indicator Status																													
Tree Stratum (Plot size: <u>30</u>)																																
1. <u>Platanus occidentalis</u>	<u>15</u>	Yes	FACW	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</u> (A/B)																												
2. <u>Acer rubrum</u>	<u>10</u>	Yes	FAC																													
3. <u>Ulmus rubra</u>	<u>10</u>	Yes	FAC																													
4. <u>Liquidambar styraciflua</u>	<u>10</u>	Yes	FAC																													
5. <u>Carpinus caroliniana</u>	<u>3</u>	No	FAC																													
6. _____																																
7. _____																																
$\frac{48}{100} = \text{Total Cover}$ 50% of total cover: <u>24</u> 20% of total cover: <u>9.6</u>				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;"><u>15</u></td> <td style="text-align:right;">Multiply by:</td> <td style="text-align:center;"><u>15</u></td> </tr> <tr> <td>OBL species</td> <td style="text-align:center;"><u>15</u></td> <td style="text-align:right;">x 1 =</td> <td style="text-align:center;"><u>15</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align:center;"><u>40</u></td> <td style="text-align:right;">x 2 =</td> <td style="text-align:center;"><u>80</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align:center;"><u>73</u></td> <td style="text-align:right;">x 3 =</td> <td style="text-align:center;"><u>219</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align:center;"><u>0</u></td> <td style="text-align:right;">x 4 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align:center;"><u>0</u></td> <td style="text-align:right;">x 5 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align:center;"><u>128</u> (A)</td> <td></td> <td style="text-align:center;"><u>314</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.45</u>	Total % Cover of:	<u>15</u>	Multiply by:	<u>15</u>	OBL species	<u>15</u>	x 1 =	<u>15</u>	FACW species	<u>40</u>	x 2 =	<u>80</u>	FAC species	<u>73</u>	x 3 =	<u>219</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>128</u> (A)		<u>314</u> (B)
Total % Cover of:	<u>15</u>	Multiply by:	<u>15</u>																													
OBL species	<u>15</u>	x 1 =	<u>15</u>																													
FACW species	<u>40</u>	x 2 =	<u>80</u>																													
FAC species	<u>73</u>	x 3 =	<u>219</u>																													
FACU species	<u>0</u>	x 4 =	<u>0</u>																													
UPL species	<u>0</u>	x 5 =	<u>0</u>																													
Column Totals:	<u>128</u> (A)		<u>314</u> (B)																													
Sapling/Shrub Stratum (Plot size: <u>15</u>)																																
1. <u>Alnus serrulata</u>	<u>15</u>	Yes	OBL	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 $\leq 3.0^1$ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																												
2. <u>Carpinus caroliniana</u>	<u>15</u>	Yes	FAC																													
3. <u>Lindera benzoin</u>	<u>5</u>	No	FAC																													
4. <u>Liquidambar styraciflua</u>	<u>5</u>	No	FAC																													
5. <u>Platanus occidentalis</u>	<u>5</u>	No	FACW																													
6. <u>Vaccinium corymbosum</u>	<u>5</u>	No	FACW																													
7. _____																																
8. _____																																
9. _____																																
$\frac{50}{100} = \text{Total Cover}$ 50% of total cover: <u>25</u> 20% of total cover: <u>10</u>																																
Herb Stratum (Plot size: <u>5</u>)																																
1. <u>Microstegium vimineum</u>	<u>12</u>	Yes	FAC	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 or equal to 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>Agrimonia parviflora</u>	<u>8</u>	Yes	FACW																													
3. <u>Boehmeria cylindrica</u>	<u>5</u>	No	FACW																													
4. <u>Poa autumnalis</u>	<u>3</u>	No	FAC																													
5. <u>Lobelia cardinalis</u>	<u>2</u>	No	FACW																													
6. _____																																
7. _____																																
8. _____																																
9. _____																																
10. _____																																
11. _____																																
$\frac{30}{100} = \text{Total Cover}$ 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>																																
Woody Vine Stratum (Plot size: <u>30</u>)																																
1. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																												
2. _____																																
3. _____																																
4. _____																																
5. _____																																
$\frac{0}{100} = \text{Total Cover}$ 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																																

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: wpea001f_w

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 3/1	92	7.5YR 4/6	8	C	PL/M	SL	
6-20	10YR 4/2	90	7.5YR 4/6	10	C	PL/M	SL	

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input checked="" type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: none _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____
--	--

Remarks:



Photo 1
Wetland data point WPEA001f_w facing north



Photo 2
Wetland data point WPEA001f_w facing south

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Atlantic Coast Pipeline City/County: Prince Edward Sampling Date: 10/17/2014
 Applicant/Owner: Dominion State: VA Sampling Point: wpea001_u
 Investigator(s): GB, LE Section, Township, Range: No PLSS in this area
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): none Slope (%): 6
 Subregion (LRR or MLRA): P Lat: 37.29963759 Long: -78.26365592 Datum: WGS 1984
 Soil Map Unit Name: Madison clay loam, eroded hilly phase NWI classification: None

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point taken on a sideslope for a saturated PFO wetland located at confluence of two streams	

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"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<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 type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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 type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: no hydrology indicators present	

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

Sampling Point: wpea001_u

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				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>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>57.14285714</u> (A/B)
1. <u><i>Pinus taeda</i></u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>	
2. <u><i>Liriodendron tulipifera</i></u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	
3. <u><i>Fagus grandifolia</i></u>	<u>7</u>	<u>No</u>	<u>FACU</u>	
4. <u><i>Quercus alba</i></u>	<u>7</u>	<u>No</u>	<u>FACU</u>	
5. <u><i>Carya cordiformis</i></u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
6. <u><i>Prunus serotina</i></u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
7. _____	_____	_____	_____	
<u>59</u> = Total Cover 50% of total cover: <u>29.5</u> 20% of total cover: <u>11.8</u>				Prevalence Index worksheet: 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>61</u> x 3 = <u>183</u> FACU species <u>62</u> x 4 = <u>248</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>123</u> (A) <u>431</u> (B) Prevalence Index = B/A = <u>3.5</u>
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. <u><i>Carpinus caroliniana</i></u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>	
2. <u><i>Cornus florida</i></u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	
3. <u><i>Liquidambar styraciflua</i></u>	<u>6</u>	<u>Yes</u>	<u>FAC</u>	
4. <u><i>Acer rubrum</i></u>	<u>5</u>	<u>No</u>	<u>FAC</u>	
5. <u><i>Pinus taeda</i></u>	<u>5</u>	<u>No</u>	<u>FAC</u>	
6. <u><i>Quercus alba</i></u>	<u>4</u>	<u>No</u>	<u>FACU</u>	
7. <u><i>Carya glabra</i></u>	<u>4</u>	<u>No</u>	<u>FACU</u>	
8. <u><i>Carya cordiformis</i></u>	<u>4</u>	<u>No</u>	<u>FACU</u>	
9. _____	_____	_____	_____	
<u>53</u> = Total Cover 50% of total cover: <u>26.5</u> 20% of total cover: <u>10.6</u>				
Herb Stratum (Plot size: <u>5</u>)				
1. <u><i>Polystichum acrostichoides</i></u>	<u>6</u>	<u>Yes</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>6</u> = Total Cover 50% of total cover: <u>3</u> 20% of total cover: <u>1.2</u>				
Woody Vine Stratum (Plot size: <u>30</u>)				
1. <u><i>Lonicera japonica</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>2.5</u> 20% of total cover: <u>1</u>				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: wpea001_u

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 5/3	100					SL	
5-20	10YR 5/4	100					SL	

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: <u>none</u> Depth (inches): _____	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
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Remarks:



Photo 1
Upland data point WPEA001_u facing north



Photo 2
Upland data point WPEA001_u facing south

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Atlantic Coast Pipeline City/County: Prince Edward Sampling Date: 10/17/2014
 Applicant/Owner: Dominion State: VA Sampling Point: wpea002f_w
 Investigator(s): GB, LE Section, Township, Range: No PLSS in this area
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR or MLRA): P Lat: 37.29832234 Long: -78.2612602 Datum: WGS 1984
 Soil Map Unit Name: Worsham sandy loam NWI classification: None

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

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

Hydrophytic Vegetation Present? Yes <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"/>
Remarks: Wetland data point taken for a saturated PFO seep wetland in a depression located between streams spea003 & spea004 at their confluence	

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"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<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 checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>10</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>7</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

Sampling Point: wpea002f_w

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>10</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>100</u> (A/B)																
1. <u>Liquidambar styraciflua</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>																	
2. <u>Acer rubrum</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u>Liriodendron tulipifera</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
$\frac{45}{100} = \text{Total Cover}$ 50% of total cover: <u>22.5</u> 20% of total cover: <u>9</u>																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)					Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>30</u></td> <td>x 1 = <u>30</u></td> </tr> <tr> <td>FACW species <u>8</u></td> <td>x 2 = <u>16</u></td> </tr> <tr> <td>FAC species <u>91</u></td> <td>x 3 = <u>273</u></td> </tr> <tr> <td>FACU species <u>8</u></td> <td>x 4 = <u>32</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>137</u> (A)</td> <td><u>351</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.56</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>30</u>	x 1 = <u>30</u>	FACW species <u>8</u>	x 2 = <u>16</u>	FAC species <u>91</u>	x 3 = <u>273</u>	FACU species <u>8</u>	x 4 = <u>32</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>137</u> (A)	<u>351</u> (B)	Prevalence Index = B/A = <u>2.56</u>
Total % Cover of:	Multiply by:																			
OBL species <u>30</u>	x 1 = <u>30</u>																			
FACW species <u>8</u>	x 2 = <u>16</u>																			
FAC species <u>91</u>	x 3 = <u>273</u>																			
FACU species <u>8</u>	x 4 = <u>32</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>137</u> (A)	<u>351</u> (B)																			
Prevalence Index = B/A = <u>2.56</u>																				
1. <u>Alnus serrulata</u>	<u>15</u>	<u>Yes</u>	<u>OBL</u>																	
2. <u>Lindera benzoin</u>	<u>12</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u>Asimina triloba</u>	<u>4</u>	<u>No</u>	<u>FAC</u>																	
4. <u>Fagus grandifolia</u>	<u>3</u>	<u>No</u>	<u>FACU</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
$\frac{34}{100} = \text{Total Cover}$ 50% of total cover: <u>17</u> 20% of total cover: <u>6.8</u>																				
Herb Stratum (Plot size: <u>5</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 $\leq 3.0^1$ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																
1. <u>Athyrium asplenoides</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>																	
2. <u>Microstegium vimineum</u>	<u>9</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u>Agrimonia parviflora</u>	<u>8</u>	<u>Yes</u>	<u>FACW</u>																	
4. <u>Carex lupulina</u>	<u>8</u>	<u>Yes</u>	<u>OBL</u>																	
5. <u>Carex comosa</u>	<u>7</u>	<u>No</u>	<u>OBL</u>																	
6. <u>Poa autumnalis</u>	<u>6</u>	<u>No</u>	<u>FAC</u>																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
$\frac{48}{100} = \text{Total Cover}$ 50% of total cover: <u>24</u> 20% of total cover: <u>9.6</u>																				
Woody Vine Stratum (Plot size: <u>30</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 or equal to 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>Lonicera japonica</u>	<u>6</u>	<u>Yes</u>	<u>FAC</u>																	
2. <u>Smilax rotundifolia</u>	<u>4</u>	<u>Yes</u>	<u>FAC</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
$\frac{10}{100} = \text{Total Cover}$ 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>																				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																				
Remarks: (Include photo numbers here or on a separate sheet.)																				

SOIL

Sampling Point: wpea002f_w

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					SL	
4-8	10YR 3/1	100					SL	
8-20	10YR 4/1	100					SL	

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input checked="" type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: none _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____
--	--

Remarks:



Photo 1
Wetland data point WPEA002f_w facing south



Photo 2
Wetland data point WPEA002f_w facing north

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Atlantic Coast Pipeline City/County: Prince Edward Sampling Date: 10/17/2014
 Applicant/Owner: Dominion State: VA Sampling Point: wpea002_u
 Investigator(s): GB, LE Section, Township, Range: No PLSS in this area
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): none Slope (%): 4
 Subregion (LRR or MLRA): P Lat: 37.29828844 Long: -78.26134147 Datum: WGS 1984
 Soil Map Unit Name: Worsham sandy loam NWI classification: None

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point taken on a sideslope above a PFO seep wetland located at the confluence of streams spea003 & spea004	

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"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<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 type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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 type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: no hydrology indicators present	

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

Sampling Point: wpea002_u

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)																		
1. <u><i>Liriodendron tulipifera</i></u>	<u>25</u>	Yes	FACU	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>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)														
2. <u><i>Liquidambar styraciflua</i></u>	<u>20</u>	Yes	FAC															
3. <u><i>Quercus rubra</i></u>	<u>10</u>	No	FACU															
4. <u><i>Acer rubrum</i></u>	<u>7</u>	No	FAC															
5. <u><i>Pinus taeda</i></u>	<u>6</u>	No	FAC															
6. _____																		
7. _____																		
$\frac{68}{100} = \text{Total Cover}$ 50% of total cover: <u>34</u> 20% of total cover: <u>13.6</u>				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%;"><u> </u> Total % Cover of:</td> <td style="width:50%;"><u> </u> Multiply by:</td> </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>77</u></td> <td>x 3 = <u>231</u></td> </tr> <tr> <td>FACU species <u>65</u></td> <td>x 4 = <u>260</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>147</u> (A)</td> <td><u>516</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.51</u>	<u> </u> Total % Cover of:	<u> </u> 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>77</u>	x 3 = <u>231</u>	FACU species <u>65</u>	x 4 = <u>260</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>147</u> (A)	<u>516</u> (B)
<u> </u> Total % Cover of:	<u> </u> 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>77</u>	x 3 = <u>231</u>																	
FACU species <u>65</u>	x 4 = <u>260</u>																	
UPL species <u>5</u>	x 5 = <u>25</u>																	
Column Totals: <u>147</u> (A)	<u>516</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u>)																		
1. <u><i>Liquidambar styraciflua</i></u>	<u>15</u>	Yes	FAC		Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)													
2. <u><i>Carpinus caroliniana</i></u>	<u>10</u>	Yes	FAC															
3. <u><i>Ulmus rubra</i></u>	<u>7</u>	No	FAC															
4. <u><i>Corylus americana</i></u>	<u>5</u>	No	FACU															
5. <u><i>Oxydendrum arboreum</i></u>	<u>5</u>	No	UPL															
6. _____																		
7. _____																		
8. _____																		
9. _____																		
$\frac{42}{100} = \text{Total Cover}$ 50% of total cover: <u>21</u> 20% of total cover: <u>8.4</u>																		
Herb Stratum (Plot size: <u>5</u>)																		
1. <u><i>Polystichum acrostichoides</i></u>	<u>25</u>	Yes	FACU	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 or equal to 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. _____																		
$\frac{25}{100} = \text{Total Cover}$ 50% of total cover: <u>12.5</u> 20% of total cover: <u>5</u>																		
Woody Vine Stratum (Plot size: <u>30</u>)																		
1. <u><i>Lonicera japonica</i></u>	<u>6</u>	Yes	FAC	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>														
2. <u><i>Smilax rotundifolia</i></u>	<u>3</u>	Yes	FAC															
3. <u><i>Toxicodendron radicans</i></u>	<u>3</u>	Yes	FAC															
4. _____																		
5. _____																		
$\frac{12}{100} = \text{Total Cover}$ 50% of total cover: <u>6</u> 20% of total cover: <u>2.4</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: wpea002_u

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 3/2	100					SL	
5-20	10YR 5/3	100					SL	

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: none _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
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Remarks:



Photo 1
Upland data point WPEA002_u facing south



Photo 2
Upland data point WPEA002_u facing north

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Atlantic Coast Pipeline City/County: Prince Edward Sampling Date: 10/17/2014
 Applicant/Owner: Dominion State: VA Sampling Point: wpea003f_w
 Investigator(s): GB, LE Section, Township, Range: No PLSS in this area
 Landform (hillslope, terrace, etc.): SLOPE Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR or MLRA): P Lat: 37.29713562 Long: -78.25799187 Datum: WGS 1984
 Soil Map Unit Name: Cecil fine sandy loam, rolling phase NWI classification: None

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

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

Hydrophytic Vegetation Present? Yes <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"/>
Remarks: Wetland data point taken for a saturated PEM wetland in a 1 year old clear cut; logging destroyed the headwaters of spea005 leaving this transient wetland feature	

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"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" 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"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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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 checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (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: wpea003f_w

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</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>100</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>65</u></td> <td>x 1 = <u>65</u></td> </tr> <tr> <td>FACW species <u>25</u></td> <td>x 2 = <u>50</u></td> </tr> <tr> <td>FAC species <u>5</u></td> <td>x 3 = <u>15</u></td> </tr> <tr> <td>FACU species <u>15</u></td> <td>x 4 = <u>60</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>110</u> (A)</td> <td><u>190</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>1.72</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>65</u>	x 1 = <u>65</u>	FACW species <u>25</u>	x 2 = <u>50</u>	FAC species <u>5</u>	x 3 = <u>15</u>	FACU species <u>15</u>	x 4 = <u>60</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>110</u> (A)	<u>190</u> (B)	Prevalence Index = B/A = <u>1.72</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>65</u>	x 1 = <u>65</u>																			
FACW species <u>25</u>	x 2 = <u>50</u>																			
FAC species <u>5</u>	x 3 = <u>15</u>																			
FACU species <u>15</u>	x 4 = <u>60</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>110</u> (A)	<u>190</u> (B)																			
Prevalence Index = B/A = <u>1.72</u>																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
_____ = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</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"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																
Herb Stratum (Plot size: <u>5</u>)																				
1. <i>Carex comosa</i>	30	Yes	OBL																	
2. <i>Rhynchospora fusca</i>	15	Yes	OBL																	
3. <i>Cyperus diandrus</i>	15	Yes	FACW																	
4. <i>Ludwigia linearis</i>	12	No	OBL																	
5. <i>Sonchus arvensis</i>	10	No	FACU																	
6. <i>Juncus effusus</i>	10	No	FACW																	
7. <i>Mimulus alatus</i>	8	No	OBL																	
8. <i>Solidago rugosa</i>	5	No	FAC																	
9. <i>Eupatorium capillifolium</i>	5	No	FACU																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
_____ = Total Cover 50% of total cover: <u>55</u> 20% of total cover: <u>22</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 or equal to 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.																
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
_____ = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																
Remarks: (Include photo numbers here or on a separate sheet.)																				

SOIL

Sampling Point: wpea003f_w

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 3/1	100					L	
6-18	10YR 5/2	75	7.5YR 4/6	25	C	PL/M	SCL	

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)
	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
	<input type="checkbox"/> Other (Explain in Remarks)

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

Restrictive Layer (if observed): Type: <u>none</u> Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____
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Remarks:

This wetland was still forested in 10/2012.



Photo 1
Wetland data point WPEA003f_w facing east



Photo 2
Wetland data point WPEA003f_w facing west

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Atlantic Coast Pipeline City/County: Prince Edward Sampling Date: 10/17/2014
 Applicant/Owner: Dominion State: VA Sampling Point: wpea003_u
 Investigator(s): GB, LE Section, Township, Range: No PLSS in this area
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): none Slope (%): 5
 Subregion (LRR or MLRA): P Lat: 37.29712917 Long: -78.25782294 Datum: WGS 1984
 Soil Map Unit Name: Cecil fine sandy loam, rolling phase NWI classification: None

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:
 Upland data point taken on a slope above a concavity in the slope where a saturated PEM wetland is present. The area has been clearcut within the last year.

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"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<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 type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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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 type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 no hydrology indicators

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

Sampling Point: wpea003_u

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</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>33.33333333</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
$\frac{0}{0} = \text{Total Cover}$ 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </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>22</u></td> <td>x 3 = <u>66</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>92</u> (A)</td> <td><u>346</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>3.76</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>22</u>	x 3 = <u>66</u>	FACU species <u>70</u>	x 4 = <u>280</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>92</u> (A)	<u>346</u> (B)	Prevalence Index = B/A = <u>3.76</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>22</u>	x 3 = <u>66</u>																			
FACU species <u>70</u>	x 4 = <u>280</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>92</u> (A)	<u>346</u> (B)																			
Prevalence Index = B/A = <u>3.76</u>																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. <i>Rubus argutus</i>	10	Yes	FACU																	
2. <i>Liquidambar styraciflua</i>	7	Yes	FAC																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
$\frac{17}{17} = \text{Total Cover}$ 50% of total cover: <u>8.5</u> 20% of total cover: <u>3.4</u>																				
Herb Stratum (Plot size: <u>5</u>)																				
1. <i>Sonchus arvensis</i>	25	Yes	FACU	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <i>Andropogon virginicus</i>	20	Yes	FACU																	
3. <i>Panicum capillare</i>	15	Yes	FAC																	
4. <i>Eupatorium capillifolium</i>	15	Yes	FACU																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
$\frac{75}{75} = \text{Total Cover}$ 50% of total cover: <u>37.5</u> 20% of total cover: <u>15</u>																				
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____	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 or equal to 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. _____	_____	_____	_____																	
$\frac{0}{0} = \text{Total Cover}$ 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>																

SOIL

Sampling Point: wpea003_u

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 3/3	100					SCL	
5-12	10YR 5/4	100					SCL	
12-20	7.5YR 4/4	100					SCL	

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: none _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
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Remarks:



Photo 1
Upland data point WPEA003_u facing east

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Atlantic Coast Pipeline City/County: Prince Edward Sampling Date: 10/17/2014
 Applicant/Owner: Dominion State: VA Sampling Point: wpea004f_w
 Investigator(s): GB, LE Section, Township, Range: No PLSS in this area
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR or MLRA): P Lat: 37.2953921 Long: -78.25529414 Datum: WGS 1984
 Soil Map Unit Name: Cecil fine sandy loam, rolling phase NWI classification: None

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

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

Hydrophytic Vegetation Present? Yes <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"/>
Remarks: Wetland data point taken within a saturated PFO wetland in a wet swale at the edge of a recent clear cut; excessive run off has caused drainage patterns and microtopography within the swale.	

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"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" 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"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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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: wpea004f_w

	Absolute % Cover	Dominant Species?	Indicator Status																																											
Tree Stratum (Plot size: <u>30</u>)																																														
1. <u><i>Pinus taeda</i></u>	<u>50</u>	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</u> (A/B)																																										
2. <u><i>Liquidambar styraciflua</i></u>	<u>10</u>	No	FAC																																											
3. <u><i>Acer rubrum</i></u>	<u>7</u>	No	FAC																																											
4. <u><i>Quercus montana</i></u>	<u>3</u>	No	UPL																																											
5. _____																																														
6. _____																																														
7. _____																																														
$\frac{70}{100} = \text{Total Cover}$ 50% of total cover: <u>35</u> 20% of total cover: <u>14</u>				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;"><u>32</u></td> <td style="text-align:right;">Multiply by:</td> <td style="text-align:center;"><u>1</u></td> <td style="text-align:center;">=</td> <td style="text-align:center;"><u>32</u></td> </tr> <tr> <td>OBL species</td> <td style="text-align:center;"><u>0</u></td> <td>x 2 =</td> <td></td> <td></td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align:center;"><u>132</u></td> <td>x 3 =</td> <td></td> <td></td> <td style="text-align:center;"><u>396</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align:center;"><u>2</u></td> <td>x 4 =</td> <td></td> <td></td> <td style="text-align:center;"><u>8</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align:center;"><u>3</u></td> <td>x 5 =</td> <td></td> <td></td> <td style="text-align:center;"><u>15</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align:center;"><u>169</u></td> <td></td> <td></td> <td></td> <td style="text-align:center;"><u>451</u></td> </tr> <tr> <td>Column Totals:</td> <td></td> <td>(A)</td> <td></td> <td></td> <td style="text-align:center;">(B)</td> </tr> </table> Prevalence Index = B/A = <u>2.66</u>	Total % Cover of:	<u>32</u>	Multiply by:	<u>1</u>	=	<u>32</u>	OBL species	<u>0</u>	x 2 =			<u>0</u>	FACW species	<u>132</u>	x 3 =			<u>396</u>	FAC species	<u>2</u>	x 4 =			<u>8</u>	FACU species	<u>3</u>	x 5 =			<u>15</u>	UPL species	<u>169</u>				<u>451</u>	Column Totals:		(A)			(B)
Total % Cover of:	<u>32</u>	Multiply by:	<u>1</u>		=	<u>32</u>																																								
OBL species	<u>0</u>	x 2 =				<u>0</u>																																								
FACW species	<u>132</u>	x 3 =				<u>396</u>																																								
FAC species	<u>2</u>	x 4 =				<u>8</u>																																								
FACU species	<u>3</u>	x 5 =				<u>15</u>																																								
UPL species	<u>169</u>					<u>451</u>																																								
Column Totals:		(A)				(B)																																								
Sapling/Shrub Stratum (Plot size: <u>15</u>)																																														
1. <u><i>Alnus serrulata</i></u>	<u>30</u>	Yes	OBL		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 $\leq 3.0^1$ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																																									
2. <u><i>Acer rubrum</i></u>	<u>10</u>	Yes	FAC																																											
3. <u><i>Nyssa sylvatica</i></u>	<u>5</u>	No	FAC																																											
4. <u><i>Liquidambar styraciflua</i></u>	<u>5</u>	No	FAC																																											
5. _____																																														
6. _____																																														
7. _____																																														
8. _____																																														
9. _____																																														
$\frac{50}{100} = \text{Total Cover}$ 50% of total cover: <u>25</u> 20% of total cover: <u>10</u>																																														
Herb Stratum (Plot size: <u>5</u>)																																														
1. <u><i>Athyrium asplenoides</i></u>	<u>8</u>	Yes	FAC	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 or equal to 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>Microstegium vimineum</i></u>	<u>3</u>	Yes	FAC																																											
3. <u><i>Carex comosa</i></u>	<u>2</u>	No	OBL																																											
4. <u><i>Polystichum acrostichoides</i></u>	<u>2</u>	No	FACU																																											
5. <u><i>Solidago rugosa</i></u>	<u>2</u>	No	FAC																																											
6. _____																																														
7. _____																																														
8. _____																																														
9. _____																																														
10. _____																																														
11. _____																																														
$\frac{17}{100} = \text{Total Cover}$ 50% of total cover: <u>8.5</u> 20% of total cover: <u>3.4</u>																																														
Woody Vine Stratum (Plot size: <u>30</u>)																																														
1. <u><i>Smilax rotundifolia</i></u>	<u>12</u>	Yes	FAC	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																										
2. <u><i>Campsis radicans</i></u>	<u>12</u>	Yes	FAC																																											
3. <u><i>Lonicera japonica</i></u>	<u>8</u>	Yes	FAC																																											
4. _____																																														
5. _____																																														
$\frac{32}{100} = \text{Total Cover}$ 50% of total cover: <u>16</u> 20% of total cover: <u>6.4</u>																																														
Remarks: (Include photo numbers here or on a separate sheet.)																																														

SOIL

Sampling Point: wpea004f_w

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 3/2	100					SCL	
4-10	10YR 3/1	98	10YR 4/6	2	C	PL	SCL	
10-20	10YR 5/1	80	10YR 4/6	20	C	PL/M	SCL	

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: <u>none</u> Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____
---	--

Remarks:



Photo 1
Wetland data point WPEA004f_w facing west



Photo 2
Wetland data point WPEA004f_w facing east

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Atlantic Coast Pipeline City/County: Prince Edward Sampling Date: 10/17/2014
 Applicant/Owner: Dominion State: VA Sampling Point: wpea004_u
 Investigator(s): GB, LE Section, Township, Range: No PLSS in this area
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): none Slope (%): 4
 Subregion (LRR or MLRA): P Lat: 37.29548665 Long: -78.25527707 Datum: WGS 1984
 Soil Map Unit Name: Cecil fine sandy loam, rolling phase NWI classification: None

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point taken above toe of slope for a saturated PFO wetland in a wet swale; at the edge of a recent cutover.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ True Aquatic Plants (B14) ___ High Water Table (A2) ___ Hydrogen Sulfide Odor (C1) ___ Saturation (A3) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Water Marks (B1) ___ Presence of Reduced Iron (C4) ___ Sediment Deposits (B2) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Drift Deposits (B3) ___ Thin Muck Surface (C7) ___ Algal Mat or Crust (B4) ___ Other (Explain in Remarks) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13)	<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) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
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 type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: no hydrology indicators present	

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

Sampling Point: wpea004_u

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: <u>30</u>)				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>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.66666666</u> (A/B)	
1. <u><i>Pinus taeda</i></u>	<u>40</u>	<u>Yes</u>	<u>FAC</u>		
2. <u><i>Liriodendron tulipifera</i></u>	<u>8</u>	<u>No</u>	<u>FACU</u>		
3. <u><i>Acer rubrum</i></u>	<u>2</u>	<u>No</u>	<u>FAC</u>		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
50% of total cover: <u>25</u>		<u>50</u> = Total Cover			Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>2</u> x 2 = <u>4</u> FAC species <u>86</u> x 3 = <u>258</u> FACU species <u>45</u> x 4 = <u>180</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>133</u> (A) <u>442</u> (B) Prevalence Index = B/A = <u>3.32</u>
20% of total cover: <u>10</u>					
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. <u><i>Acer rubrum</i></u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>		
2. <u><i>Liriodendron tulipifera</i></u>	<u>5</u>	<u>No</u>	<u>FACU</u>		
3. <u><i>Juniperus virginiana</i></u>	<u>5</u>	<u>No</u>	<u>FACU</u>		
4. <u><i>Nyssa sylvatica</i></u>	<u>4</u>	<u>No</u>	<u>FAC</u>		
5. <u><i>Ulmus alata</i></u>	<u>4</u>	<u>No</u>	<u>FACU</u>		
6. <u><i>Vaccinium corymbosum</i></u>	<u>2</u>	<u>No</u>	<u>FACW</u>		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
50% of total cover: <u>20</u>		<u>40</u> = Total Cover		Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
20% of total cover: <u>8</u>					
Herb Stratum (Plot size: <u>5</u>)					
1. <u><i>Panicum capillare</i></u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>		
2. <u><i>Sonchus arvensis</i></u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>		
3. <u><i>Andropogon virginicus</i></u>	<u>8</u>	<u>Yes</u>	<u>FACU</u>		
4. <u><i>Rubus argutus</i></u>	<u>5</u>	<u>No</u>	<u>FACU</u>		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
50% of total cover: <u>19</u>		<u>38</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 or equal to 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.	
20% of total cover: <u>7.6</u>					
Woody Vine Stratum (Plot size: <u>30</u>)					
1. <u><i>Campsis radicans</i></u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
50% of total cover: <u>2.5</u>		<u>5</u> = Total Cover			
20% of total cover: <u>1</u>					
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

SOIL

Sampling Point: wpea004_u

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 4/4	100					SCL	
4-12	10YR 5/6	100					SCL	
12-20	10YR 5/8	100					SCL	

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: <u>none</u> Depth (inches): _____	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
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Remarks:



Photo 1
Upland data point WPEA004_u facing west



Photo 2
Upland data point WPEA004_u facing east

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Atlantic Coast Pipeline City/County: Prince Edward Sampling Date: 1/7/2015
 Applicant/Owner: DOMINION State: VA Sampling Point: wpec001f_w
 Investigator(s): Team C Section, Township, Range: No PLSS in this area
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): none Slope (%): 2
 Subregion (LRR or MLRA): P Lat: 37.28773328 Long: -78.24236324 Datum: WGS 1984
 Soil Map Unit Name: Louisburg sandy loam, rolling phase NWI classification: None

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

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

Hydrophytic Vegetation Present? Yes <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"/>
Remarks: 	

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"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" 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"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>7</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Wetland hydrology present	

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

Sampling Point: wpec001f_w

	Absolute % Cover	Dominant Species?	Indicator Status																									
Tree Stratum (Plot size: <u>30</u>)																												
1. <u>Liquidambar styraciflua</u>	45	Yes	FAC	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)																								
2. <u>Acer rubrum</u>	25	Yes	FAC																									
3. <u>Gordonia lasianthus</u>	10	No	FACW																									
4. _____																												
5. _____																												
6. _____																												
7. _____																												
80 = Total Cover																												
50% of total cover: <u>40</u>		20% of total cover: <u>16</u>																										
Sapling/Shrub Stratum (Plot size: <u>15</u>)																												
1. <u>Gordonia lasianthus</u>	20	Yes	FACW	Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%;"></td> <td style="width:25%; text-align:center;">Total % Cover of:</td> <td style="width:25%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td style="text-align:center;"><u>82</u></td> <td style="text-align:center;">x 1 = <u>82</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align:center;"><u>45</u></td> <td style="text-align:center;">x 2 = <u>90</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align:center;"><u>70</u></td> <td style="text-align:center;">x 3 = <u>210</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align:center;"><u>0</u></td> <td style="text-align:center;">x 4 = <u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align:center;"><u>0</u></td> <td style="text-align:center;">x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align:center;"><u>197</u> (A)</td> <td style="text-align:center;"><u>382</u> (B)</td> </tr> <tr> <td colspan="3" style="text-align:center;">Prevalence Index = B/A = <u>1.93</u></td> </tr> </table> 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"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)		Total % Cover of:	Multiply by:	OBL species	<u>82</u>	x 1 = <u>82</u>	FACW species	<u>45</u>	x 2 = <u>90</u>	FAC species	<u>70</u>	x 3 = <u>210</u>	FACU species	<u>0</u>	x 4 = <u>0</u>	UPL species	<u>0</u>	x 5 = <u>0</u>	Column Totals:	<u>197</u> (A)	<u>382</u> (B)	Prevalence Index = B/A = <u>1.93</u>		
	Total % Cover of:	Multiply by:																										
OBL species	<u>82</u>	x 1 = <u>82</u>																										
FACW species	<u>45</u>	x 2 = <u>90</u>																										
FAC species	<u>70</u>	x 3 = <u>210</u>																										
FACU species	<u>0</u>	x 4 = <u>0</u>																										
UPL species	<u>0</u>	x 5 = <u>0</u>																										
Column Totals:	<u>197</u> (A)	<u>382</u> (B)																										
Prevalence Index = B/A = <u>1.93</u>																												
2. _____																												
3. _____																												
4. _____																												
5. _____																												
6. _____																												
7. _____																												
8. _____																												
9. _____																												
20 = Total Cover																												
50% of total cover: <u>10</u>		20% of total cover: <u>4</u>																										
Herb Stratum (Plot size: <u>5</u>)																												
1. <u>Carex lupulina</u>	65	Yes	OBL	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 or equal to 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 <input checked="" type="checkbox"/> No <input type="checkbox"/>																								
2. <u>Juncus effusus</u>	15	No	FACW																									
3. <u>Osmunda spectabilis</u>	15	No	OBL																									
4. <u>Symplocarpus foetidus</u>	2	No	OBL																									
5. _____																												
6. _____																												
7. _____																												
8. _____																												
9. _____																												
10. _____																												
11. _____																												
97 = Total Cover																												
50% of total cover: <u>48.5</u>		20% of total cover: <u>19.4</u>																										
Woody Vine Stratum (Plot size: <u>30</u>)																												
1. _____																												
2. _____																												
3. _____																												
4. _____																												
5. _____																												
0 = Total Cover																												
50% of total cover: <u>0</u>		20% of total cover: <u>0</u>																										
Remarks: (Include photo numbers here or on a separate sheet.)																												

SOIL

Sampling Point: wpec001f_w

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	10 YR 4/2	95	10 YR 3/4	5	C	PL	SL	

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> (MLRA 147, 148)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> (MLRA 136, 147)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	
<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

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 <input checked="" type="checkbox"/> No _____
---	--

Remarks:
Hydric soil present



Photo 1
Wetland data point wpec001f_w facing north



Photo 2
Wetland data point wpec001f_w facing east



Photo 3
Wetland data point wpec001f_w facing south



Photo 4
Wetland data point wpec001f_w facing west

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Atlantic Coast Pipeline City/County: Prince Edward Sampling Date: 1/7/2015
 Applicant/Owner: DOMINION State: VA Sampling Point: wpec001_u
 Investigator(s): Team C Section, Township, Range: No PLSS in this area
 Landform (hillslope, terrace, etc.): Hill Slope Local relief (concave, convex, none): none Slope (%): 50
 Subregion (LRR or MLRA): P Lat: 37.28768501 Long: -78.242369 Datum: WGS 1984
 Soil Map Unit Name: Louisburg sandy loam, rolling phase NWI classification: None

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: 	

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"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<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 type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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 type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: No wetland hydrology present	

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

Sampling Point: wpec001_u

	Absolute % Cover	Dominant Species?	Indicator Status																																	
Tree Stratum (Plot size: <u>30</u>)																																				
1. <i>Fagus grandifolia</i>	50	Yes	FACU	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</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>42.85714285</u> (A/B)																																
2. <i>Quercus alba</i>	20	Yes	FACU																																	
3. <i>Quercus falcata</i>	10	No	FACU																																	
4. _____																																				
5. _____																																				
6. _____																																				
7. _____																																				
$\frac{80}{100} = \text{Total Cover}$ 50% of total cover: <u>40</u> 20% of total cover: <u>16</u>				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right">Total % Cover of:</td> <td style="text-align:center"><u>0</u></td> <td style="text-align:right">Multiply by:</td> <td style="text-align:center"><u>0</u></td> </tr> <tr> <td>OBL species</td> <td style="text-align:center"><u>0</u></td> <td>x 1 =</td> <td style="text-align:center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align:center"><u>5</u></td> <td>x 2 =</td> <td style="text-align:center"><u>10</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align:center"><u>15</u></td> <td>x 3 =</td> <td style="text-align:center"><u>45</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align:center"><u>100</u></td> <td>x 4 =</td> <td style="text-align:center"><u>400</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align:center"><u>0</u></td> <td>x 5 =</td> <td style="text-align:center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align:center"><u>120</u></td> <td>(A)</td> <td style="text-align:center"><u>455</u></td> </tr> <tr> <td colspan="4" style="text-align:right">Prevalence Index = B/A = <u>3.79</u></td> </tr> </table>	Total % Cover of:	<u>0</u>	Multiply by:	<u>0</u>	OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>5</u>	x 2 =	<u>10</u>	FAC species	<u>15</u>	x 3 =	<u>45</u>	FACU species	<u>100</u>	x 4 =	<u>400</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>120</u>	(A)	<u>455</u>	Prevalence Index = B/A = <u>3.79</u>			
Total % Cover of:	<u>0</u>	Multiply by:	<u>0</u>																																	
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
FACW species	<u>5</u>	x 2 =	<u>10</u>																																	
FAC species	<u>15</u>	x 3 =	<u>45</u>																																	
FACU species	<u>100</u>	x 4 =	<u>400</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>120</u>	(A)	<u>455</u>																																	
Prevalence Index = B/A = <u>3.79</u>																																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)																																				
1. <i>Fagus grandifolia</i>	10	Yes	FACU	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																																
2. <i>Carpinus caroliniana</i>	5	Yes	FAC																																	
3. _____																																				
4. _____																																				
5. _____																																				
6. _____																																				
7. _____																																				
8. _____																																				
9. _____																																				
$\frac{15}{100} = \text{Total Cover}$ 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>																																				
Herb Stratum (Plot size: <u>5</u>)																																				
1. <i>Andropogon virginicus</i>	10	Yes	FACU	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 or equal to 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. <i>Acer rubrum</i>	10	Yes	FAC																																	
3. <i>Gordonia lasianthus</i>	5	Yes	FACW																																	
4. _____																																				
5. _____																																				
6. _____																																				
7. _____																																				
8. _____																																				
9. _____																																				
10. _____																																				
11. _____																																				
$\frac{25}{100} = \text{Total Cover}$ 50% of total cover: <u>12.5</u> 20% of total cover: <u>5</u>																																				
Woody Vine Stratum (Plot size: <u>30</u>)																																				
1. _____				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>																																
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
$\frac{0}{100} = \text{Total Cover}$ 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																																				
Remarks: (Include photo numbers here or on a separate sheet.)																																				

SOIL

Sampling Point: wpec001_u

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	2.5 Y 5/4	100					S	
10-16	2.5 Y 6/6	100					S	

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> (MLRA 147, 148)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> (MLRA 136, 147)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	
<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

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 <input checked="" type="checkbox"/>
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Remarks:
 No hydric soil present



Photo 1
Wetland data point wpec001_u facing north



Photo 2
Wetland data point wpec001_u facing east



Photo 3
Wetland data point wpec001_u facing south



Photo 4
Wetland data point wpec001_u facing west

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Atlantic Coast Pipeline City/County: Prince Edward Sampling Date: 10/20/2014
 Applicant/Owner: Dominion State: VA Sampling Point: wpea006f_w
 Investigator(s): GB, TP Section, Township, Range: No PLSS in this area
 Landform (hillslope, terrace, etc.): draw Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR or MLRA): P Lat: 37.28528469 Long: -78.23746661 Datum: WGS 1984
 Soil Map Unit Name: Appling sandy loam, rolling phase NWI classification: None

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

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

Hydrophytic Vegetation Present? Yes <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"/>
Remarks: Wetland data point for a saturated PFO wetland in a forested draw between hayfields, intermittent stream spea007 flows through feature	

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"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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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 checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>11</u> (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: wpea006f_w

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				
1. <u><i>Acer rubrum</i></u>	<u>20</u>	Yes	FAC	
2. <u><i>Liriodendron tulipifera</i></u>	<u>20</u>	Yes	FACU	
3. <u><i>Nyssa sylvatica</i></u>	<u>5</u>	No	FAC	
4. _____				
5. _____				
6. _____				
7. _____				
<u>45</u> = Total Cover 50% of total cover: <u>22.5</u> 20% of total cover: <u>9</u>				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. <u><i>Viburnum nudum</i></u>	<u>10</u>	Yes	OBL	
2. <u><i>Carpinus caroliniana</i></u>	<u>6</u>	Yes	FAC	
3. <u><i>Acer rubrum</i></u>	<u>4</u>	No	FAC	
4. <u><i>Magnolia virginiana</i></u>	<u>4</u>	No	FACW	
5. <u><i>Sambucus nigra</i></u>	<u>3</u>	No	FAC	
6. _____				
7. _____				
8. _____				
9. _____				
<u>27</u> = Total Cover 50% of total cover: <u>13.5</u> 20% of total cover: <u>5.4</u>				
Herb Stratum (Plot size: <u>5</u>)				
1. <u><i>Woodwardia areolata</i></u>	<u>25</u>	Yes	FACW	
2. <u><i>Osmundastrum cinnamomeum</i></u>	<u>6</u>	No	FACW	
3. <u><i>Polystichum acrostichoides</i></u>	<u>5</u>	No	FACU	
4. <u><i>Boehmeria cylindrica</i></u>	<u>5</u>	No	FACW	
5. <u><i>Osmunda spectabilis</i></u>	<u>5</u>	No	OBL	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>46</u> = Total Cover 50% of total cover: <u>23</u> 20% of total cover: <u>9.2</u>				
Woody Vine Stratum (Plot size: <u>30</u>)				
1. <u><i>Lonicera japonica</i></u>	<u>25</u>	Yes	FAC	
2. <u><i>Smilax rotundifolia</i></u>	<u>8</u>	Yes	FAC	
3. _____				
4. _____				
5. _____				
<u>33</u> = Total Cover 50% of total cover: <u>16.5</u> 20% of total cover: <u>6.6</u>				

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 85.71428571 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>15</u>	x 1 = <u>15</u>
FACW species <u>40</u>	x 2 = <u>80</u>
FAC species <u>71</u>	x 3 = <u>213</u>
FACU species <u>25</u>	x 4 = <u>100</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>151</u> (A)	<u>408</u> (B)

Prevalence Index = B/A = 2.7

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

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 or equal to 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: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: wpea006f_w

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 4/2	100					SL	
5-10	10YR 4/2	97	7.5YR 4/6	3	C	PL	SL	
10-20	10YR 4/1	97	7.5YR 4/6	3	C	PL	SL	

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: none _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____
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Remarks:



Photo 1
Wetland data point WPEA006f_w facing west



Photo 2
Wetland data point WPEA006f_w facing east

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Atlantic Coast Pipeline City/County: Prince Edward Sampling Date: 10/20/2014
 Applicant/Owner: Dominion State: VA Sampling Point: wpea006_u
 Investigator(s): GB, TP Section, Township, Range: No PLSS in this area
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): none Slope (%): 8
 Subregion (LRR or MLRA): P Lat: 37.28521067 Long: -78.23734821 Datum: WGS 1984
 Soil Map Unit Name: Appling sandy loam, rolling phase NWI classification: None

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland data point taken on a sideslope above a saturated PFO wetland in a wet draw along stream spea007	

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"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<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 type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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 type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: no hydrology indicators present	

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

Sampling Point: wpea006_u

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				
1. <u>Liriodendron tulipifera</u>	<u>40</u>	Yes	FACU	
2. <u>Quercus alba</u>	<u>15</u>	No	FACU	
3. <u>Acer rubrum</u>	<u>15</u>	No	FAC	
4. <u>Quercus montana</u>	<u>10</u>	No	UPL	
5. _____				
6. _____				
7. _____				
$\frac{80}{100} = \text{Total Cover}$ 50% of total cover: <u>40</u> 20% of total cover: <u>16</u>				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. <u>Acer rubrum</u>	<u>6</u>	Yes	FAC	
2. <u>Liquidambar styraciflua</u>	<u>6</u>	Yes	FAC	
3. <u>Nyssa sylvatica</u>	<u>3</u>	Yes	FAC	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
$\frac{15}{100} = \text{Total Cover}$ 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Polystichum acrostichoides</u>	<u>5</u>	Yes	FACU	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
$\frac{5}{100} = \text{Total Cover}$ 50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				
Woody Vine Stratum (Plot size: <u>30</u>)				
1. <u>Lonicera japonica</u>	<u>12</u>	Yes	FAC	
2. <u>Smilax bona-nox</u>	<u>5</u>	Yes	FACU	
3. _____				
4. _____				
5. _____				
$\frac{17}{100} = \text{Total Cover}$ 50% of total cover: <u>8.5</u> 20% of total cover: <u>3.4</u>				
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>7</u> (B)				
Percent of Dominant Species That Are OBL, FACW, or FAC: <u>57.14285714</u> (A/B)				
Prevalence Index worksheet:				
$\frac{\text{Total \% Cover of:}}{\text{Multiply by:}}$				
OBL species	<u>0</u>	x 1 =	<u>0</u>	
FACW species	<u>0</u>	x 2 =	<u>0</u>	
FAC species	<u>42</u>	x 3 =	<u>126</u>	
FACU species	<u>65</u>	x 4 =	<u>260</u>	
UPL species	<u>10</u>	x 5 =	<u>50</u>	
Column Totals:	<u>117</u>	(A)	<u>436</u>	(B)
Prevalence Index = B/A = <u>3.72</u>				
Hydrophytic Vegetation Indicators:				
<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation				
<input checked="" type="checkbox"/> 2 - Dominance Test is >50%				
<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹				
<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)				
<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Four Vegetation Strata:				
Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 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 <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: wpea006_u

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 4/3	100					SL	
8-20	10YR 4/4	100					SCL	light SCL

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

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

Restrictive Layer (if observed): Type: none _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
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Remarks:



Photo 1
Upland data point WPEA006_u facing east



Photo 2
Upland data point WPEA006_u facing west