Project/Site: Southeast Reliability Project	City/County: NA/Cumberland Sampling Date: 07/22/14
Applicant/Owner: Dominion	State: VA Sampling Point: wcuk001f_w
Investigator(s): W. Medlin, J. Sweitzer	Section, Township, Range: NA
Landform (hillslope, terrace, etc.): seepage slope Loc	al relief (concave, convex, none): <u>concave</u> Slope (%): <u>1-2</u>
Subregion (LRR or MLRA): LRR P Lat: 37.369212	Long: <u>-78.410000</u> Datum: NAD 1983
Soil Map Unit Name: Mayodan-Exway complex, 7 to 15 perce	ent slopes NWI classification: PFO1A
Are climatic / hydrologic conditions on the site typical for this time of year	ar? Yes 🚺 No 🦲 (If no, explain in Remarks.)
Are Vegetation Soil, or Hydrology significantly of	disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally prol	blematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No No	In the Counted Area
Hydric Soil Present? Yes V No	Is the Sampled Area within a Wetland? Yes Vo
Wetland Hydrology Present? Yes ✓ No	
Remarks:	
This area is a seepage slope wetland adjacent to an inte	rmittent stream. The area appears to hold water seasonally. All
three criteria met. Area is a wetland.	,
*Photos 100-0150 to 0153	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Pla	
High Water Table (A2) Hydrogen Sulfid	
	spheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Rec	·
	duction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3)	The state of the s
Algal Mat or Crust (B4) Other (Explain in	n Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	NA
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No Depth (inches): (includes capillary fringe)	NA Wetland Hydrology Present? Yes V No No
Describe Recorded Data (stream gauge, monitoring well, aerial photos	s, previous inspections), if available:
NA	
Remarks:	
Hydrology criteria met.	

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

Tree Stratum (Plot size: 30 ft radius	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1 Acer rubrum	20	<u>Species:</u>	FAC	Number of Dominant Species That Are OBL. FACW. or FAC: 10 (A)
2. Carya glabra	35	<u>Y</u>	FACU	That Are OBL, FACW, or FAC: 10 (A)
•	15	· 		Total Number of Dominant
3. Liquidambar styraciflua		· · · · · · · · · · · · · · · · · · · 	FAC	Species Across All Strata: 12 (B)
4. Fraxinus pennsylvanica	30	<u>Y</u>	FACW	Percent of Dominant Species
_{5.} Ulmus rubra	10		FAC	That Are OBL, FACW, or FAC: 83 (A/B)
6				
	110	= Total Cov	er	Prevalence Index worksheet:
50% of total cover: <u>55</u>	20% of	total cover:	22	Total % Cover of: Multiply by:
Sapling Stratum (Plot size: 15 ft radius	20% 01	total cover		OBL species 5 $x 1 = 5$
	20	V	EAC	FACW species 40 $\times 2 = 80$
1. Liquidambar styraciflua	30	<u> </u>	FAC	FAC species 142 x 3 = 426
2. Diospyros virginiana	15		FAC	FACU species 52 x 4 = 208
3. Juniperus virginiana	15	<u>Y</u>	FACU	UPL species $0 x 5 = 0$
4. Acer rubrum	15	Y	FAC	Column Totals: 239 (A) 719 (B)
5				Column Totals (A) (B)
6.				Prevalence Index = B/A = 3.01
	75	= Total Cov	er	Hydrophytic Vegetation Indicators:
500/ 61.14 37.5				1 - Rapid Test for Hydrophytic Vegetation
50% of total cover: 37.5	20% of	total cover	13	✓ 2 - Dominance Test is >50%
Shrub Stratum (Plot size: 15 ft radius	4.5		540	1
1. Liquidambar styraciflua	15	<u>Y</u>	FAC	3 - Prevalence Index is ≤3.0 ¹
2. Vaccinium corymbosum	10	<u>Y</u>	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
3. Quercus phellos	5		FAC	· ·
4				Problematic Hydrophytic Vegetation ¹ (Explain)
5				
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
·	30	= Total Cov	or .	
4.5			_	Definitions of Five Vegetation Strata:
	20% of	total cover	0	Tree – Woody plants, excluding woody vines,
40.6				
Herb Stratum (Plot size: 10 ft radius				approximately 20 ft (6 m) or more in height and 3 in.
1. Scirpus atrovirens	5	Y	OBL	
	5	Y	OBL FAC	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
1. Scirpus atrovirens	5 5 2			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
Scirpus atrovirens Chasmanthium sessiliflorum	5		FAC	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,
1. Scirpus atrovirens 2. Chasmanthium sessiliflorum 3. Quercus phellos 4. Quercus alba	5 2		FAC FAC	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.
1. Scirpus atrovirens 2. Chasmanthium sessiliflorum 3. Quercus phellos 4. Quercus alba 5.	5 2 2		FAC FAC	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
1. Scirpus atrovirens 2. Chasmanthium sessiliflorum 3. Quercus phellos 4. Quercus alba 5. 6.	5 2 2	<u>Y</u>	FAC FAC	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.
1. Scirpus atrovirens 2. Chasmanthium sessiliflorum 3. Quercus phellos 4. Quercus alba 5	5 2 2	<u>Y</u>	FAC FAC	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
1. Scirpus atrovirens 2. Chasmanthium sessiliflorum 3. Quercus phellos 4. Quercus alba 5	5 2 2	<u>Y</u>	FAC FAC	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.
1. Scirpus atrovirens 2. Chasmanthium sessiliflorum 3. Quercus phellos 4. Quercus alba 5	5 2 2	<u>Y</u>	FAC FAC	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
1. Scirpus atrovirens 2. Chasmanthium sessiliflorum 3. Quercus phellos 4. Quercus alba 5	5 2 2	<u>Y</u>	FAC FAC	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.
1. Scirpus atrovirens 2. Chasmanthium sessiliflorum 3. Quercus phellos 4. Quercus alba 5	5 2 2	<u>Y</u>	FAC FAC	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
1. Scirpus atrovirens 2. Chasmanthium sessiliflorum 3. Quercus phellos 4. Quercus alba 5. 6. 7. 8. 9. 10.	5 2 2	<u>Y</u>	FAC FACU	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.
1. Scirpus atrovirens 2. Chasmanthium sessiliflorum 3. Quercus phellos 4. Quercus alba 5	5 2 2	Y = Total Cov	FAC FACU	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.
1. Scirpus atrovirens 2. Chasmanthium sessiliflorum 3. Quercus phellos 4. Quercus alba 5. 6. 7. 8. 9. 10. 11. 50% of total cover: 7	5 2 2	<u>Y</u>	FAC FACU	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.
1. Scirpus atrovirens 2. Chasmanthium sessiliflorum 3. Quercus phellos 4. Quercus alba 5. 6. 7. 8. 9. 10. 11. 50% of total cover: 7 Woody Vine Stratum (Plot size: 15 ft radius)	5 2 2 	= Total Covers	FAC FACU FACU	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.
1. Scirpus atrovirens 2. Chasmanthium sessiliflorum 3. Quercus phellos 4. Quercus alba 5	5 2 2 2 ———————————————————————————————	= Total Cov	FAC FACU FACU FACU FACU FACU FAC	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.
1. Scirpus atrovirens 2. Chasmanthium sessiliflorum 3. Quercus phellos 4. Quercus alba 5. 6. 7. 8. 9. 10. 11. 50% of total cover: 7 Woody Vine Stratum (Plot size: 15 ft radius) 1. Campsis radicans 2. Smilax rotundifolia	5 2 2 2 ———————————————————————————————	= Total Covers	FAC FACU FACU	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.
1. Scirpus atrovirens 2. Chasmanthium sessiliflorum 3. Quercus phellos 4. Quercus alba 5	5 2 2 2 ———————————————————————————————	= Total Cov	FAC FACU FACU FACU FACU FACU FAC	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.
1. Scirpus atrovirens 2. Chasmanthium sessiliflorum 3. Quercus phellos 4. Quercus alba 5. 6. 7. 8. 9. 10. 11. 50% of total cover: 7 Woody Vine Stratum (Plot size: 15 ft radius) 1. Campsis radicans 2. Smilax rotundifolia	5 2 2 2 ———————————————————————————————	= Total Cov	FAC FACU FACU FACU FACU FACU FAC	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.
1. Scirpus atrovirens 2. Chasmanthium sessiliflorum 3. Quercus phellos 4. Quercus alba 5	14 20% of 5 5	= Total Coverse Y	FAC FACU er 2.8 FAC FAC	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.
1. Scirpus atrovirens 2. Chasmanthium sessiliflorum 3. Quercus phellos 4. Quercus alba 5	14 20% of 5 5	= Total Cov	FAC FACU er 2.8 FAC FAC	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
1. Scirpus atrovirens 2. Chasmanthium sessiliflorum 3. Quercus phellos 4. Quercus alba 5	5 2 2 2 ———————————————————————————————	= Total Covers	FAC FACU Per 2.8 FAC FAC FAC Per 2.8	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.
1. Scirpus atrovirens 2. Chasmanthium sessiliflorum 3. Quercus phellos 4. Quercus alba 5	5 2 2 2 ———————————————————————————————	= Total Coverse Y	FAC FACU Per 2.8 FAC FAC FAC Per 2.8	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
1. Scirpus atrovirens 2. Chasmanthium sessiliflorum 3. Quercus phellos 4. Quercus alba 5	5 2 2 2 ———————————————————————————————	= Total Covers	FAC FACU Per 2.8 FAC FAC FAC Per 2.8	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

Sampling Point: wcuk001f_w

	•	to the dep	oth needed to docun			or confirm	the absence	of indicators.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	x Feature %	Type ¹	Loc ²	Texture	Remarks
0-6	10YR 6/1	80	10YR 5/8	20	C	М	silt loam	friable
6-14	10YR 6/2	65	7.5YR 5/8	35	С		silt loam	friable
14-20	10YR 6/2	50	7.5YR 5/8	50	- c		silt loam	friable and dry
14-20	10111 0/2		7.511(5/6	30	. -		Siit ioaiii	inable and dry
	-		-					
	1							
					-			
					-			
					. ——			
¹ Type: C=Co	oncentration, D=Dep	oletion, RM	=Reduced Matrix, MS	S=Maske	d Sand Gr	ains.	² Location: P	L=Pore Lining, M=Matrix.
Hydric Soil I	ndicators:						Indica	ators for Problematic Hydric Soils 3:
Histosol			Dark Surface					cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be				148) L C	Coast Prairie Redox (A16)
Black Hi			Thin Dark Su			147, 148)		(MLRA 147, 148)
	n Sulfide (A4) I Layers (A5)		☐ Loamy Gleye ✓ Depleted Mat		(FZ)		— P	Piedmont Floodplain Soils (F19) (MLRA 136, 147)
	ick (A10) (LRR N)		Redox Dark		F6)		Пν	/ery Shallow Dark Surface (TF12)
	d Below Dark Surface	ce (A11)	Depleted Dar					Other (Explain in Remarks)
	ark Surface (A12)		Redox Depre	ssions (F	8)			•
	lucky Mineral (S1) (LRR N,	☐ Iron-Mangan		ses (F12) ((LRR N,		
	A 147, 148)		MLRA 130				3.	
	Sleyed Matrix (S4)		Umbric Surfa					licators of hydrophytic vegetation and
	edox (S5) Matrix (S6)		☐ Piedmont Flo☐ Red Parent M	•				etland hydrology must be present, lless disturbed or problematic.
	_ayer (if observed)	·	Red Parent N	iateriai (r	ZI) (IVILA	KA 127, 147	<i>i)</i> un	less disturbed of problematic.
Type: NA		•						
J	ches): NA						Hydric Soil	Present? Yes Vo No
Remarks:							Tiyane son	11636116. 163 <u>111</u> 110 <u>111</u>
Hy	ydric soils criteri	ia met.						
								1
								1
								1
								1



Wetland data point wcuk001f_w facing East



Wetland data point wcuk001f_w facing West



Wetland data point wcuk001f_w soil sample

Project/Site: Southeast Reliability Project	_ City/County: NA/Cumberland Sampling Date: 07/22/14
Applicant/Owner: Dominion	State: VA Sampling Point: wcuk001_u
Investigator(s): W. Medlin, J. Sweitzer	_ Section, Township, Range: NA
Landform (hillslope, terrace, etc.): hillslope	ocal relief (concave, convex, none): Convex Slope (%): 5-10
Subregion (LRR or MLRA): LRR P Lat: 37.36925	Long: Datum:
Soil Map Unit Name: Mayodan-Exway complex, 7 to 15 pe	rcent slopes 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 significant	tly disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally p	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	ng sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	le the Complet Area
Hydric Soil Present? Yes No ✓	Is the Sampled Area within a Wetland? Yes No
Wetland Hydrology Present? Yes No	<u> </u>
Remarks:	<u>r</u>
This area is an upland hillslope adjacent to wcuk001.	The upland/wetland boundary is abrupt. All three criteria are not
met. Area is not a wetland.	, ,
*Photos 100-0157 to 0160	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	
Surface Water (A1) True Aquatic	
	Ilfide Odor (C1) Sparsey Vegetated Concave Surface (bb)
	zospheres on Living Roots (C3) Moss Trim Lines (B16)
	Reduced Iron (C4) Dry-Season Water Table (C2)
	Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3)	
Algal Mat or Crust (B4) Other (Explain	in in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	NIA.
Surface Water Present? Yes No Depth (inche	
Water Table Present? Yes No Depth (inche	
Saturation Present? Yes No Depth (inche (includes capillary fringe)	es): NA Wetland Hydrology Present? Yes No V
Describe Recorded Data (stream gauge, monitoring well, aerial pho	t otos, previous inspections), if available:
NA	
Remarks:	
Hydrology criteria is not met.	

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

/EGETATION (Five Strata) – Use scientific na	mes of	olants.		Sampling Point: wcuk001_u
20 ft radius	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft radius)		Species?		Number of Dominant Species
1. Pinus echinata	15		FACU	That Are OBL, FACW, or FAC: $\frac{7}{}$ (A)
2. Quercus falcata	70	<u>Y</u>	FACU	Total Number of Dominant
3. Quercus alba	40	<u>Y</u>	FACU	Species Across All Strata: 12 (B)
_{4.} Carya glabra	10		FACU	Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 58 (A/B)
6				
	135	= Total Cov	er	Prevalence Index worksheet:
50% of total cover: 67.5	- 20% of	total cover:	27	Total % Cover of: Multiply by:
Sapling Stratum (Plot size: 15 ft radius		10101 00.0		OBL species $\frac{0}{10}$ $\times 1 = \frac{0}{20}$
1. Liquidambar styraciflua	5	Υ	FAC	FACW species $\frac{10}{40}$ $\times 2 = \frac{20}{400}$
2. Nyssa sylvatica	10	Y	FAC	FAC species $\frac{42}{120}$ x 3 = $\frac{126}{700}$
3. Juniperus virginiana	10	<u>'</u>	FACU	FACU species 180 $x 4 = 720$
-		<u>·</u>	17.00	UPL species $0 \times 5 = 0$
4				Column Totals: <u>232</u> (A) <u>866</u> (B)
5				D. 373
6	25			Prevalence Index = B/A = 3.73
40.5		= Total Cov		Hydrophytic Vegetation Indicators:
50% of total cover: <u>12.5</u>	20% of	total cover:	5	1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size: 15 ft radius				2 - Dominance Test is >50%
1. Liquidambar styraciflua	10	<u>Y</u>	FAC	3 - Prevalence Index is ≤3.0 ¹
2. Vaccinium corymbosum	10	<u>Y</u>	FACW	4 - Morphological Adaptations ¹ (Provide supporting
3. Juniperus virginiana	5	<u>Y</u>	FACU	data in Remarks or on a separate sheet)
4				Problematic Hydrophytic Vegetation ¹ (Explain)
5				1
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	25	= Total Cov	er	Definitions of Five Vegetation Strata:
50% of total cover: 12.5				_
Herb Stratum (Plot size: 10 ft radius)	2070 0.	lotal cover.	<u> </u>	Tree – Woody plants, excluding woody vines,
1. Carya glabra	5	Υ	FACU	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
2. Chasmanthium sessiliflorum	5	<u>'</u>	FAC	
3. Panicum virgatum	2	<u> </u>	FAC	Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
	2		170	than 3 in. (7.6 cm) DBH.
4. Solidago sp.				
5				Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
6				approximately 3 to 20 it (1 to 0 iii) in noight.
7				Herb – All herbaceous (non-woody) plants, including
8				herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3
9				ft (1 m) in height.
10				Woody vine – All woody vines, regardless of height.
11				Woody virie – All Woody Villes, regardless of fielgrit.
	14	= Total Cov	er	
50% of total cover: <u>7</u>	20% of	total cover:	2.8	
Woody Vine Stratum (Plot size: 15 ft radius)		10101 00.11		
1. Campsis radicans	5	Υ	FAC	
2. Smilax rotundifolia	5	Y	FAC	
_			.,	
3				
4				
5	10			Hydrophytic
_		= Total Cov		Vegetation Present? Yes ✓ No
· · · · · · · · · · · · · · · · · · ·	 '	total cover:	2	Present? Yes Y No No
Remarks: (Include photo numbers here or on a separate sl	neet.)			
Hydrophytic vegetation criteria met. Mosses pre	sent in th	ne upland	plot.	

Sampling Point: wcuk001_u

10YR 5/2	Depth	Matrix	0/	Redox Feat	ures	T	Demonstra
ype: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ype: C=Concentration, D=Depletion, RM=Reduced Matrix, Split Reduced Sand Grains. ype: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ype: C=Concentration, D=Depletion problematic hydrology must be present, unless disturbed or problematic. ype: C=Concentration, D=Depletion RM=Reduced Matrix, MS=Masked Sand Grains. ype: C=Concentration. ype: C=Concentration, D=Depletion RM=Reduced Matrix, MS=Masked Sand Grains. ype: C=Concentration. ype	(inches)	Color (moist)		Color (moist) %	Type ¹ Loc ²		Remarks
ype: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. 2 Location: PL=Pore Lining, M=Matrix. Indicators: Indicators for Problematic Hydric Soils 3: Histosol (A1)							
Histosol (A1)	-18	2.5Y 7/3	100			FSL	friable and dry
Histosol (A1)							
Histosol (A1)		-				<u> </u>	-
Histosol (A1)							
Histosol (A1)							
Histosol (A1)						<u> </u>	·
Histosol (A1) Dark Surface (S7) Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Redox (S5) Sandy Redox (S5) Stripped Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) Depth (inches): NA Depth (inches): NA Deparksurface (S7) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) (MLRA 147, 148) (MLRA 147, 148) (MLRA 147, 148) (MLRA 147, 148) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Type: NA Depth (inches): NA Hydric Soil Present? Yes No	ype: C=C	oncentration, D=De	epletion, RM=	Reduced Matrix, MS=Mas	ked Sand Grains.	² Location: I	– ————————————————————————————————————
Histic Epipedon (A2)	dric Soil	Indicators:				Indic	cators for Problematic Hydric Soils 3:
Black Histic (A3)	Histosol	(A1)					2 cm Muck (A10) (MLRA 147)
Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 136, 122) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Stripped Matrix (S6) Depleted Dark Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Tyne: NA Depth (inches): NA Hydric Soil Present? Yes No						7, 148)	
Stratified Layers (A5) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 136, 147) MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Strictive Layer (if observed): Type: NA Depth (inches): NA MURA 136, 147) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F6) Depleted Dark Surface (F7) Depleted Dark Surface (F7) Depleted Dark Surface (F7) Depleted Matrix (F3) Redox Dark Surface (F7) Depleted Matrix (F3) Wery Shallow Dark Surface (TF12) Other (Explain in Remarks) I ron-Manganese Masses (F12) (LRR N, MLRA 136, 122) January Strictive Layer (F13) (MLRA 136, 122) Red Parent Material (F21) (MLRA 148) Method Surface (F13) Murch 136, 147) Wery Shallow Dark Surface (TF12) Other (Explain in Remarks) I ron-Manganese Masses (F12) (LRR N, MLRA 136, 122) January Strictive (F13) Murch 136, 147) Wery Shallow Dark Surface (TF12) Other (Explain in Remarks) I ron-Manganese Masses (F12) (LRR N, MLRA 136, 122) January Strictive (F13) Murch 136, 147) Wery Shallow Dark Surface (TF12) Other (Explain in Remarks) January Strictive (Exp	_					_	
2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Iron-Manganese Masses (F12) (LRR N, MLRA 136) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Petrictive Layer (if observed): Type: NA Depth (inches): NA Hydric Soil Present? Yes No						ш	•
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) Piedmont Floodplain Soils (F19) (MLRA 127, 147) Stripped Matrix (S6) Estrictive Layer (if observed): Type: NA Depth (inches): NA Depth (inches): NA Depth (inches): NA Depth (inches): NA Depth (inches): NA Depth (inches): NA Depth (inches): Other (Explain in Remarks)						_	· · ·
Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Stripped Matrix (S6) Stripped Matrix (S6) Depth (inches): NA Peparks: Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136) Which is the properties of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No							
Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Piedmont Floodplain Soils (F19) (MLRA 127, 147) Stripped Matrix (S6) Petrictive Layer (if observed): Type: NA Depth (inches): NA MLRA 136) Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) Wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No			ice (A11)	 ·			Other (Explain in Remarks)
MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Piedmont Floodplain Soils (F19) (MLRA 148) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) Depth (inches): NA MLRA 136) Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) Wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No							
Sandy Gleyed Matrix (S4) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) Pestrictive Layer (if observed): Type: NA Depth (inches): NA Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) Wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No			(LRR N,		asses (F12) (LRR N,		
Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unless disturbed or problematic. Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Type: NA Depth (inches): NA Hydric Soil Present? Yes No							
Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Type: NA Depth (inches): NA Hydric Soil Present? Yes No							
estrictive Layer (if observed): Type: NA Depth (inches): NA Hydric Soil Present? Yes No	Sandy F	Redox (S5)		Piedmont Floodplain	n Soils (F19) (MLRA 1	1 48) w	etland hydrology must be present,
Type: NA Depth (inches): NA Hydric Soil Present? Yes No	Stripped	d Matrix (S6)		Red Parent Materia	l (F21) (MLRA 127, 1 4	47) u	nless disturbed or problematic.
Depth (inches): NA Hydric Soil Present? Yes No vernarks:	estrictive	Layer (if observed	l):				
Depth (inches): NA Hydric Soil Present? Yes No vernarks:							
emarks: Hydric soils criteria is not met.	J			<u> </u>		Hydric So	il Present? Yes No V
riganic soils difiera is not met.	emarks: 🔟	vdrio opilo oritor	ria ia nat m	ot		-	
	П	yunc sons cinei	118 15 1101 111	el.			



Upland data point wcuk001_u facing North



Upland data point wcuk001_u facing South



Upland data point wcuk001_u soil sample

Project/Site: Southeast Reliability Project	City/County: NA/Cumberland Sampling Date: 07/23/14
Applicant/Owner: Dominion	State: VA Sampling Point: wcuk002f_w
Investigator(s): W. Medlin, J. Sweitzer	Section, Township, Range: NA
Landform (hillslope, terrace, etc.): seepage slope Loc	cal relief (concave, convex, none): <u>concave</u> Slope (%): <u>2-4</u>
Subregion (LRR or MLRA): LRR P Lat: 37.368558	Long: <u>-78.410183</u> Datum: NAD 1983
Soil Map Unit Name: Mayodan-Exway complex, 2 to 7 perce	nt slopes NWI classification: PFO1B
Are climatic / hydrologic conditions on the site typical for this time of ye	ar? 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 pro	oblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Ic the Sampled Area
Hydric Soil Present? Yes ✓ No	Is the Sampled Area within a Wetland? Yes No
Wetland Hydrology Present? Yes Vo No	
Remarks:	
This area is a piedmont seepage forest with multiple dra	sinage patterns. Some small ridges (~5 ft wide) are included in
the boundary in order to adequately encompass the wet	land ecosystem. All three criteria met. Area is a wetland.
*Photos 100-0171 to 0174	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic P	
High Water Table (A2) Hydrogen Sulfin	
	spheres on Living Roots (C3) Moss Trim Lines (B16)
1 -	educed Iron (C4) Dry-Season Water Table (C2)
	duction in Tilled Soils (C6) Crayfish Burrows (C8)
☐ Thin Muck Surf	ace (C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain	in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	NA
Surface Water Present? Yes No Depth (inches)	
Water Table Present? Yes No Depth (inches)	
Saturation Present? Yes V. No Depth (inches)	: 0 Wetland Hydrology Present? Yes ✓ No _ No
Describe Recorded Data (stream gauge, monitoring well, aerial photo	us, previous inspections), if available:
NA	
Remarks:	
Hydrology criteria met.	

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

00.6	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft radius)		Species?		Number of Dominant Species
1. Acer rubrum	20	<u>Y</u>	<u>FAC</u>	That Are OBL, FACW, or FAC: 11 (A)
2. Quercus phellos	20	<u>Y</u>	FAC	Total Number of Deminant
3. Nyssa sylvatica	15		FAC	Total Number of Dominant Species Across All Strata: 13 (B)
4. Ulmus alata	35	Y	FACU	
5. Liriodendron tulipifera	10		FACU	Percent of Dominant Species That Are OBL FACW or FAC: 85 (A/B)
6.				That Are OBL, FACW, or FAC: 85 (A/B)
0	100	T-t-LO		Prevalence Index worksheet:
		= Total Cov		Total % Cover of: Multiply by:
50% of total cover: <u>50</u>	20% of	total cover:	20	OBL species 32 x 1 = 32
Sapling Stratum (Plot size: 15 ft radius				FACW species 37 $\times 2 = 74$
_{1.} Liquidambar styraciflua	10	Υ	FAC	FAC species 132 x 3 = 396
2. Liriodendron tulipifera	25	Υ	FACU	l
3. Carya glabra	5		FACU	·
4. Acer rubrum	5		FAC	UPL species $0 \times 5 = 0$
				Column Totals: <u>281</u> (A) <u>822</u> (B)
5				Prevalence Index = B/A = 2.93
6	45			
		= Total Cov		Hydrophytic Vegetation Indicators:
50% of total cover: <u>22.5</u>	20% of	total cover:	9	1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size: 15 ft radius				2 - Dominance Test is >50%
1. Ilex decidua	20	Υ	FAC	3 - Prevalence Index is ≤3.0 ¹
2. Vaccinium corymbosum	25	Υ	FACW	4 - Morphological Adaptations (Provide supporting
3. Ilex opaca	20	Υ	FAC	data in Remarks or on a separate sheet)
4 Liquidambar styraciflua	15			Problematic Hydrophytic Vegetation ¹ (Explain)
·· <u> </u>				
5				¹ Indicators of hydric soil and wetland hydrology must
0	80			be present, unless disturbed or problematic.
		= Total Cov		Definitions of Five Vegetation Strata:
50% of total cover: 40	20% of	total cover:	<u>16</u>	Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size: 10 ft radius)				approximately 20 ft (6 m) or more in height and 3 in.
1. Lycopus americanus	10	Υ	OBL	(7.6 cm) or larger in diameter at breast height (DBH).
2. Fraxinus pennsylvanica	5		FACW	Sapling – Woody plants, excluding woody vines,
3. Fragaria virginiana	5		FACU	approximately 20 ft (6 m) or more in height and less
4. Woodwardia virginica	10	Y	OBL	than 3 in. (7.6 cm) DBH.
5 Scirpus atrovirens	2		OBL	Shrub Woody plants excluding woody vines
6. Glyceria striata	10	Y	OBL	Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
	2		FAC	
7. Euonymus americanus				Herb – All herbaceous (non-woody) plants, including
8. Platanthera clavellata	2		FACW	herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3
9				ft (1 m) in height.
10				Woody vine – All woody vines, regardless of height.
11				woody vine – All woody vines, regardless of neight.
		-		
	46	= Total Cov	er	
50% of total cover: 23				
50% of total cover: 23		= Total Cov total cover:		
Woody Vine Stratum (Plot size: 15 ft radius)	20% of	total cover:	9.2	
Woody Vine Stratum (Plot size: 15 ft radius) 1. Parthenocissus quinquefolia	20% of 5	total cover:	9.2 FAC	
Woody Vine Stratum (Plot size: 15 ft radius)	20% of	total cover:	9.2	
Woody Vine Stratum (Plot size: 15 ft radius) 1. Parthenocissus quinquefolia	20% of 5	total cover:	9.2 FAC	
Woody Vine Stratum (Plot size: 15 ft radius) 1. Parthenocissus quinquefolia 2. Smilax rotundifolia	20% of 5	total cover:	9.2 FAC	
Woody Vine Stratum (Plot size: 15 ft radius) 1. Parthenocissus quinquefolia 2. Smilax rotundifolia	20% of 5 15	total cover:	9.2 FAC	Hydrophytic
Woody Vine Stratum (Plot size: 15 ft radius) 1. Parthenocissus quinquefolia 2. Smilax rotundifolia	20% of 5 15	total cover:	9.2 FAC FAC	Hydrophytic Vegetation
Woody Vine Stratum (Plot size: 15 ft radius) 1. Parthenocissus quinquefolia 2. Smilax rotundifolia 3. 4. 5	20% of 5 15 20	Y Y = Total Cov	9.2 FAC FAC er	Hydrophytic Vegetation Present? Yes ✓ No
Woody Vine Stratum (Plot size: 15 ft radius) 1. Parthenocissus quinquefolia 2. Smilax rotundifolia 3	20% of 5 15 20 20% of	Y Y	9.2 FAC FAC er	Vegetation
Woody Vine Stratum (Plot size: 15 ft radius) 1. Parthenocissus quinquefolia 2. Smilax rotundifolia 3. 4. 5	20% of 5 15 20 20% of	Y Y = Total Cov	9.2 FAC FAC er	Vegetation

Sampling Point: wcuk002f_w

SOIL

	•	to the dep	th needed to docum			or confirm	the absence	of indicators.)
Depth (inches)	Matrix Color (moist)	%	Redox Color (moist)	K Feature %	s Type ¹	_Loc ²	Texture	Remarks
0-1	10YR 2/2	100	Color (moist)		_турс	LOC	silty muck	high organic content
1-4	10YR 4/1	90	10YR 5/6	10	<u>C</u>		SL	SL - sandy loam
								SE - Saridy Idam
4-14	10YR 5/1	75	5YR 5/8	25	<u>C</u>	PL	clay	
14-20	10YR 6/1	80	10YR 5/8	20	<u> </u>	. <u>M</u>	SCL	SCL - sandy clay loam
					·	· ——		
				-				
		letion, RM	=Reduced Matrix, MS	=Masked	d Sand Gra	ains.	² Location: PI	_=Pore Lining, M=Matrix.
Hydric Soil I				(07)				tors for Problematic Hydric Soils ³ :
Histosol	(A1) Dipedon (A2)		Dark SurfacePolyvalue Bel		co (S9) (N	AI DA 147		cm Muck (A10) (MLRA 147) oast Prairie Redox (A16)
Black His			Thin Dark Sur				140)	(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye			, ,	☐ Pi	edmont Floodplain Soils (F19)
	Layers (A5)		✓ Depleted Mat				_	(MLRA 136, 147)
	ck (A10) (LRR N)		Redox Dark S					ery Shallow Dark Surface (TF12)
	Below Dark Surfac	e (A11)	Depleted Dar				<u> </u>	ther (Explain in Remarks)
	ırk Surface (A12) lucky Mineral (S1) (l	I DD NI	Redox Depre			I DD N		
	147, 148)	LIXIX IV,	MLRA 136		C3 (1 12) (LIXIX IV,		
	leyed Matrix (S4)		Umbric Surface		(MLRA 13	86, 122)	³ Ind	icators of hydrophytic vegetation and
	edox (S5)		Piedmont Flo					tland hydrology must be present,
	Matrix (S6)		Red Parent M	laterial (F	21) (MLR	A 127, 147	') unl	ess disturbed or problematic.
	_ayer (if observed):	:						
Type: <u>N</u>			<u></u>					
Depth (inc	ches): NA						Hydric Soil	Present? Yes Vo No
Remarks:	dric soils criteri	a met						
• • • •	dire cone criteri	a mot.						



Wetland data point wcuk002f_w facing South



Wetland data point wcuk002f_w facing West



Wetland data point wcuk002f_w soil sample

Project/Site: Dominion Southeast Reliability Project City/0	County: Cumberland Sampling Date: wcuk002_u
Applicant/Owner: Dominion	State: VA Sampling Point: 07/23/2014
Investigator(s): J. Sweitzer, W. Medlin Secti	
Landform (hillslope, terrace, etc.): hillslope Local re	
Landrolli (Illistope, terrace, etc.) Local re	78 410169539 NAD 1983
Subregion (LRR or MLRA): LRR P Lat: 37.368554759 Soil Map Unit Name: Mayodan-Exway complex, 2 to 7 percent slopes	Long: 15:115 15555 Datum: 17:15 1555
Are climatic / hydrologic conditions on the site typical for this time of year?	
Are Vegetation, Soil, or Hydrology significantly distu	rbed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally problem	atic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sar	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No	
Hydric Soil Present? Yes No✓	Is the Sampled Area
Wetland Hydrology Present? Yes No✓	within a Wetland? Yes No
Remarks:	
Photos 104-4537 through 104-4541 (J. Sweitzer Camera)	
Unland plat actablished as billeless is accorded, growth deciduous forest	
Upland plot established on hillslope in secondary growth deciduous forest.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	· ,
High Water Table (A2) Hydrogen Sulfide Oc	· · · · · · · · · · · · · · · · · · ·
Saturation (A3) Oxidized Rhizospher	
Water Marks (B1) Presence of Reduce	
	on in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (· · · · · · · · · · · · · · · · · · ·
Algal Mat or Crust (B4) Other (Explain in Re	marks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No✓ Depth (inches):	
Water Table Present? Yes No _ ✓ Depth (inches):	
Saturation Present? Yes No ✓ Depth (inches):	Wetland Hydrology Present? Yes No_ ✓
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:
Remarks:	
No indicators of wetland hydrology.	

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

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: wcuk002_u
00 % D	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:u30 ft R)	% Cover	Species?	Status	Number of Dominant Species _
1. Fagus grandifolia	5	N	FACU	That Are OBL, FACW, or FAC:7 (A)
Liquidambar styraciflua	30	Y	FAC	
3 Liriodendron tulipifera	10		FACU	Total Number of Dominant
<u> </u>		<u> </u>		Species Across All Strata: (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 70 (A/B)
6				· · · · ·
				Prevalence Index worksheet:
	45	= Total Cove		Total % Cover of: Multiply by:
50% of total cover:23		total cover:		OBL species x 1 =
45 % D	20 /0 01	iolai cover.		FACW species1 x 2 =2
Caping/Onitab Ottatani (1 lot size	70	V	EACH	
1. Liriodendron tulipifera	70	<u>Y</u>	FACU	FAC species 9/ x 3 = 291
2. Liquidambar styraciflua	50	<u> </u>	FAC	FACU species81 x 4 =324
3. Quercus alba	20	N	FACU	UPL species x 5 =
Quercus phellos	10	N	FAC	Column Totals:179 (A)617 (B)
5 Prunus serotina	10		FACU	
			-7.00	Prevalence Index = B/A =3.4
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				
9				✓ 2 - Dominance Test is >50%
o	160	T-4-1 0		3 - Prevalence Index is ≤3.0 ¹
500/ - 51-1-1 80		= Total Cove		4 - Morphological Adaptations (Provide supporting
50% of total cover: 80	20% of	total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5 ft R)				Problematic Hydrophytic Vegetation ¹ (Explain)
1. Acer rubrum (seedlings)	1	Y	FAC	Problematic Hydrophytic vegetation (Explain)
2. Vaccinium corymbosum	1	Υ	FACW	
Liriodendron tulipifera (seedlings)	1	Y	FACU	¹ Indicators of hydric soil and wetland hydrology must
Liquidambar styraciflua (seedlings)	1	<u> </u>	FAC	be present, unless disturbed or problematic.
·				Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				
9.				Sapling/Shrub – Woody plants, excluding vines, less
				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
	4	= Total Cove	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 2	20% of	total cover:	1	Woody vine All woody vines are startless 2.00 ft
Woody Vine Stratum (Plot size:30 Ft R)				Woody vine – All woody vines greater than 3.28 ft in height.
Smilax rotundifolia	10	Υ	FAC	neight.
Campsis radicans		<u> </u>	FAC	
<u>. </u>				
3				
4				Hydrophytic
5				Vegetation
	15	= Total Cove	er	Present? Yes No
50% of total cover: 8		total cover:	_	
		total cover.		
Remarks: (Include photo numbers here or on a separate s	,			
egetation passes dominance test for hydrophytic vegetation	on.			

Sampling Point: wcuk002_u

Profile Desc	ription: (Describe to	the dep	oth needed to docum	nent the i	ndicator	or confirm	n the absence	of indica	tors.)
Depth	Matrix		Redox	x Features	s				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>		Remarks
0-8	10YR 6/3	100	NA	NA_	NA_	NA_	loamy Sand	NA	
8-11	10YR 6/3	30	NA	NA	NA	NA_	loamy Sand	NA	
	7.5YR 6/6	70	NA	NA	NA	NA	loamy Sand	NA	
11-18	10YR 7/1	20	5YR 4/6	80	С	М	clay Loam	N/A	
¹ Type: C=Co	oncentration, D=Deple	etion. RM	=Reduced Matrix. MS	= =Masked	Sand Gra	ains.	² Location: P	L=Pore Li	ning, M=Matrix.
Hydric Soil I		, , , , , , , , , , , , , , , , , , ,	. toudoud manny, me						Problematic Hydric Soils ³ :
Histosol			Dark Surface	(S7)					(A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be		ce (S8) (N	ILRA 147,			rie Redox (A16)
Black His			Thin Dark Su			47, 148)		-	147, 148)
	n Sulfide (A4)		Loamy Gleye		F2)		P		Floodplain Soils (F19)
	Layers (A5)		Depleted Mat		-0)				136, 147)
	ck (A10) (LRR N) Below Dark Surface	(Δ11)	Redox Dark S Depleted Dar					-	ow Dark Surface (TF12) lain in Remarks)
	rk Surface (A12)	(Δ11)	Redox Depre				_ ~	ritiei (Lxp	iain in Nemarks)
	lucky Mineral (S1) (Li	RR N,	Iron-Mangane	•	•	LRR N,			
	147, 148)		MLRA 136						
	leyed Matrix (S4)		Umbric Surfa						hydrophytic vegetation and
	edox (S5)		Piedmont Flo						rology must be present,
	Matrix (S6)		Red Parent M	laterial (F	21) (MLR	A 127, 147	7) un	less distu	rbed or problematic.
	_ayer (if observed): rd Pan Clay								
								5 4	
Depth (inc	enes):						Hydric Soil	Present	? Yes No
Remarks:									
No indicators	of hydric soils observ	ed.							



Upland data point wcuk002_u facing North



Upland data point wcuk002_u facing South



Upland data point wcuk002_u soil sample

Project/Site: Southeast Reliability Project	City/County: NA/Cumberland Sampling Date: 07/23/14
Applicant/Owner: Dominion	State: VA Sampling Point: wcuk003f_w
Investigator(s): W. Medlin, J. Sweitzer	Section, Township, Range: NA
	ocal relief (concave, convex, none): concave Slope (%): 0-1
Subregion (LRR or MLRA): LRR P Lat: 37.367406	Long:78.408315 Datum: NAD 1983
Soil Map Unit Name: Mayodan-Exway complex, 7 to 15 percentage of the soil Mayodan-Exway complex, 7 to 15 percentage of the soil Mayodan-Exway complex, 7 to 15 percentage of the soil Mayodan-Exway complex, 7 to 15 percentage of the soil Mayodan-Exway complex, 7 to 15 percentage of the soil Mayodan-Exway complex, 7 to 15 percentage of the soil Mayodan-Exway complex, 7 to 15 percentage of the soil Mayodan-Exway complex, 7 to 15 percentage of the soil Mayodan-Exway complex, 7 to 15 percentage of the soil Mayodan-Exway complex, 7 to 15 percentage of the soil Mayodan-Exway complex, 7 to 15 percentage of the soil Mayodan-Exway complex, 7 to 15 percentage of the soil Mayodan-Exway complex, 7 to 15 percentage of the soil Mayodan-Exway complex, 7 to 15 percentage of the soil Mayodan-Exway complex, 7 to 15 percentage of the soil Mayodan-Exway complex of t	cent slopes NWI classification: PFO1C
Are climatic / hydrologic conditions on the site typical for this time of ye	
Are Vegetation Soil , or Hydrology significantly	y disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation Soil , or Hydrology naturally pr	oblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	
Hydric Soil Present? Yes V No	Is the Sampled Area within a Wetland? Yes No
Wetland Hydrology Present? Yes ✓ No	
Remarks:	·
This area is a forested headwater wetland that provides	s flow to several small ephemeral stream channels. All three
criteria met. Area is a wetland.	
*Photos 100-0190 to 0194	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic F	
Hydrogen Sulfi	
	ospheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Ro	educed Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2)	eduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3)	<u>=</u>
Algal Mat or Crust (B4)	
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
✓ Water-Stained Leaves (B9) ☐ Aquatic Fauna (B13)	☐ Microtopographic Relief (D4) ☐ FAC-Neutral Test (D5)
Field Observations:	FAC-Neutral Test (D5)
Surface Water Present? Yes No Depth (inches	s). NA
Water Table Present? Yes No Depth (inches	
Saturation Present? Yes No Depth (inches	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:
NA	
Remarks:	
Hydrology criteria met. Sphagnum moss observed in we	etland area.

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

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft radius		Species?		Number of Dominant Species
1. Acer rubrum	40	<u>Y</u>	<u>FAC</u>	That Are OBL, FACW, or FAC: 10 (A)
2. Quercus phellos	80	<u>Y</u>	FAC	Total Number of Dominant
3. Ulmus rubra	15		FAC	Species Across All Strata: 10 (B)
4				
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
6.				mat Are OBE, FACW, OF FAC.
	135	= Total Cov	er	Prevalence Index worksheet:
50% (***) 67.5				Total % Cover of: Multiply by:
50% of total cover: <u>67.5</u>	20% of	total cover:		OBL species 15 x 1 = 15
Sapling Stratum (Plot size: 15 ft radius	20	V	E A C\A/	FACW species 97 x 2 = 194
1. Fraxinus pennsylvanica	30 10	<u>Y</u> <u>Y</u>	FACW FAC	FAC species 200 x 3 = 600
2. Ulmus rubra			FAC	FACU species 15 $x 4 = 60$
3				UPL species 0 $x = 0$
4				Column Totals: 327 (A) 869 (B)
5				Column rotals.
6				Prevalence Index = $B/A = 2.66$
	40	= Total Cov	er	Hydrophytic Vegetation Indicators:
50% of total cover: 20	20% of	total cover	8	1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size: 15 ft radius	20 /0 01	total cover.	-	2 - Dominance Test is >50%
1 llex decidua	30	Υ	FACW	3 - Prevalence Index is ≤3.0 ¹
2. Fraxinus pennsylvanica	30	<u>·</u> Y	FACW	4 - Morphological Adaptations ¹ (Provide supporting
3 Juniperus virginiana	10	<u>-</u>	FACU	data in Remarks or on a separate sheet)
·				Problematic Hydrophytic Vegetation ¹ (Explain)
4. Liquidambar styraciflua	15		FAC	
5				¹ Indicators of hydric soil and wetland hydrology must
6				be present, unless disturbed or problematic.
	85	= Total Cov	er	Definitions of Five Vegetation Strata:
50% of total cover: 42.5	20% of	total cover:	17	-
Herb Stratum (Plot size: 10 ft radius)				Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
1. Microstegium vimineum	15	Υ	FAC	(7.6 cm) or larger in diameter at breast height (DBH).
2. Lycopus americanus	15	Y	OBL	
3. Carex sqarrosa	5	<u> </u>	FACW	Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
4. Arisaema triphyllum	2		FACW	than 3 in. (7.6 cm) DBH.
			TACVV	
5				Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
6				
7				Herb – All herbaceous (non-woody) plants, including
8				herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3
9				ft (1 m) in height.
10				
11				Woody vine – All woody vines, regardless of height.
	37	= Total Cov	er	
50% of total cover: 18.5				
Woody Vine Stratum (Plot size: 15 ft radius)	20% 01	total cover.		
1. Parthenocissus quinquefolia	5		FACU	
	10	Y		
2. Smilax rotundifolia		1	FAC	
3. Toxicodendron radicans	10	<u>Y</u>	FAC	
4. Campsis radicans	5		FAC	
5				Hydrophytic
	30	= Total Cov	er	Vegetation
50% of total cover: <u>15</u>	20% of	total cover:	6	Present? Yes ✓ No
Remarks: (Include photo numbers here or on a separate sl				
·	icet.)			
Hydrophytic vegetation criteria met.				

Sampling Point: wcuk003f_w

nches)	Matrix	2:	Redo	ox Feature	es T	. ,	- .	-
^	Color (moist)		Color (moist)		Type ¹	Loc ²	<u>Texture</u>	Remarks
	10YR 6/1	90	7.5YR 5/8	10	<u>C</u>	_ <u>PL</u>	silt loam	
	10YR 7/1	80	7.5YR 5/8	20	<u>C</u>	PL	silt loam	
2-20	10YR 7/1	80	7.5YR 5/6	20	<u>C</u>	M/PL	FSL	FSL - fine sandy loam
		epletion, RN	I=Reduced Matrix, M	S=Maske	d Sand Gr	ains.	² Location: P	L=Pore Lining, M=Matrix.
dric Soil In Histosol (A Histic Epip			Dark Surface	elow Surfa			<u> </u>	ators for Problematic Hydric Soils ³ : cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16)
Black Hist			Thin Dark Solution Loamy Gley			147, 148)		(MLRA 147, 148) Piedmont Floodplain Soils (F19)
	Sulfide (A4) _ayers (A5)		☐ Loamy Gley ☐ Depleted Ma		(I ⁻ 4)		□ P	(MLRA 136, 147)
	k (A10) (LRR N)		Redox Dark		F6)		<u> </u>	/ery Shallow Dark Surface (TF12)
Depleted I	Below Dark Surfa	ace (A11)	Depleted Da	ırk Surfac	e (F7)			Other (Explain in Remarks)
	Surface (A12)		Redox Depr					
_	cky Mineral (S1)	(LRR N,	☐ Iron-Mangar		ses (F12)	(LRR N,		
	147, 148)		MLRA 13				3.	
	eyed Matrix (S4)		Umbric Surfa					licators of hydrophytic vegetation and
Sandy Red			Piedmont Fl	•				etland hydrology must be present,
Stripped M	yer (if observed	۸.	Red Parent	wateriai (i	-21) (IVILE	KA 127, 147	r) un	lless disturbed or problematic.
Type: NA	yer (ii observed	1):						
J	. NIA						l	
Depth (inch	es): INA						Hydric Soil	Present? Yes V No
emarks: Hyd	dric soils crite	ria met.						



Wetland data point wcuk003f_w facing South



Wetland data point wcuk003f_w facing West



Wetland data point wcuk003f_w soil sample

City/County: NA/Cumberland Sampling Date: 07/23/14
State: VA Sampling Point: wcuk003_u
Section, Township, Range: NA
ocal relief (concave, convey, none). CONVEX Slone (%). 3-5
l _{Long:} -78.410089 _{Datum:} NAD 1983
rcent slopes NWI classification: Upland
year? Yes 🚺 No 🦲 (If no, explain in Remarks.)
ly disturbed? Are "Normal Circumstances" present? Yes No
oroblematic? (If needed, explain any answers in Remarks.)
g sampling point locations, transects, important features, etc.
Laste Counted Assa
Is the Sampled Area within a Wetland? Yes No
<u>r</u>
icent to a seasonally flooded headwater wetland (wcuk003). All
, , , , , , , , , , , , , , , , , , , ,
Secondary Indicators (minimum of two required)
Surface Soil Cracks (B6) Specially Vigorated Company Surface (B0)
Plants (B14)
zospheres on Living Roots (C3) Moss Trim Lines (B16)
Reduced Iron (C4) Dry-Season Water Table (C2)
Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
urface (C7) Saturation Visible on Aerial Imagery (C9)
n in Remarks) Stunted or Stressed Plants (D1)
Geomorphic Position (D2)
Shallow Aquitard (D3)
Microtopographic Relief (D4)
FAC-Neutral Test (D5)
es): NA
os): NA
SS): NA Wetland Hydrology Present? Yes No V
otos, previous inspections), if available:

Sampling	Point:	wcuk003_u
----------	--------	-----------

20 # dive	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft radius		Species?		Number of Dominant Species
1. Quercus alba	80	<u>Y</u>	FACU	That Are OBL, FACW, or FAC: 5 (A)
2. Liquidambar styraciflua	35	<u>Y</u>	<u>FAC</u>	Total Number of Dominant
3				Species Across All Strata: 14 (B)
4				
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 36 (A/B)
6				That Are OBE, I ACW, OF I AC. (A/B)
o	115	= Total Cov	or	Prevalence Index worksheet:
57 E				Total % Cover of: Multiply by:
50% of total cover: 57.5	20% of	total cover:		OBL species x 1 =
Sapling Stratum (Plot size: 15 ft radius				FACW species x 2 =
1. Ulmus rubra	20	<u>Y</u>	FAC	FAC species x 3 =
_{2.} Carya glabra	10	Υ	FACU	FACU species x 4 =
3. Cornus florida	20	<u>Y</u>	FACU	
4				UPL species x 5 =(D)
5				Column Totals: (A) (B)
6.				Prevalence Index = B/A =
<u> </u>	50	= Total Cov	or	Hydrophytic Vegetation Indicators:
0.5				
50% of total cover: 25	20% of	total cover:	10	1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size: 15 ft radius				2 - Dominance Test is >50%
1. Carya tomentosa	20	<u>Y</u>	FACU	3 - Prevalence Index is ≤3.0 ¹
2. Juniperus virginiana	5		FACU	4 - Morphological Adaptations (Provide supporting
3. Acer rubrum	5		FAC	data in Remarks or on a separate sheet)
4. Ulmus americana	15	Υ	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
5. Cornus florida	15	Y	FACU	
6.				¹ Indicators of hydric soil and wetland hydrology must
u	60	= Total Cov		be present, unless disturbed or problematic.
00				Definitions of Five Vegetation Strata:
50% of total cover: 30	20% of	total cover:	12	Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size: 10 ft radius)				approximately 20 ft (6 m) or more in height and 3 in.
_{1.} Euonymus americanus	5		FAC	(7.6 cm) or larger in diameter at breast height (DBH).
2. Vaccinium angustifolium	8	<u>Y</u>	FACU	Sapling – Woody plants, excluding woody vines,
3. Carya tomentosa	10	Υ	FACU	approximately 20 ft (6 m) or more in height and less
4. Quercus alba	8	Υ	FACU	than 3 in. (7.6 cm) DBH.
_{5.} Nyssa sylvatica	2		FAC	Shrub – Woody plants, excluding woody vines,
6. Fragaria virginiana	10	Y	FACU	approximately 3 to 20 ft (1 to 6 m) in height.
		<u> </u>		
7				Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
8				plants, except woody vines, less than approximately 3
9				ft (1 m) in height.
10				Woody vine – All woody vines, regardless of height.
11				Treedy vines / wrong vines, regardless of neight.
	53	= Total Cov	er	
50% of total cover: 26.5	20% of	total cover:	10.6	
Woody Vine Stratum (Plot size: 15 ft radius				
1. Campsis radicans	10	Υ	FAC	
2. Smilax rotundifolia	10	\overline{Y}	FAC	
		<u> </u>	1710	
3				
4				
5				Hydrophytic
	20	= Total Cov	er	Vegetation
50% of total cover: <u>10</u>	20% of	total cover:	4	Present? Yes No Y
Remarks: (Include photo numbers here or on a separate s				1
Hydrophytic vegetation criteria is not met.	•			
, , ,				

Sampling Point: wcuk003_u

0-8 10YR 5/3 100 silt loam friable and dry 8-18 10YR 5/3 65 5YR 5/8 35 C M SCL SCL - silty clay loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Indicators for Problematic Hydric Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) (MLRA 147) Histic Epipedon (A2) Polyvalue Below Surface (S9) (MLRA 147, 148) Coast Prairie Redox (A16) Black Histic (A3) Depleted Matrix (F3) (MLRA 147, 148) (MLRA 147, 148) Stratified Layers (A5) Depleted Matrix (F3) (MLRA 147, 148) Polepleted Below Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (F1) Redox Depressions (F8) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) (MLRA 136, 147) Depleted Matrix (F3) (MLRA 147, 148) (MLRA 136, 147) Depleted Below Dark Surface (F17) (MLRA 147, 148) (MLRA 136, 147) (MLRA 147, 148) (MLRA 147, 148) (MLRA 136, 147) (MLRA 147, 148) (MLRA 136, 147) (MLRA 147, 148) (MLRA 136, 147) (MLRA 136, 147) (MLRA 136, 147) (MLRA 147, 148) (MLRA 147, 148) (MLRA 136, 147) (MLRA 147, 148) (MLRA 147, 148) (MLRA 136, 147) (MLRA 147, 148) (MLRA 136, 147) (MLRA 136, 147) (MLRA 147, 148) (MLRA 147, 148) (MLRA 136, 147) (MLRA 147, 148) (MLRA 147, 148) (MLRA 136, 147) (MLRA 147, 148) (MLRA 147, 148) (MLRA 136, 147) (MLRA 147, 148) (MLRA 147, 148) (MLRA 147, 148) (MLRA 136, 147) (MLRA 147, 148) (ML	Depth	Matrix			x Feature	S1	1 - 2	T	Day 1
8-18	(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Polyvalua									
Histosol (A1)	3-18	10YR 5/3	65 	5YR 5/8	35	<u> </u>	- <u>M</u>	SCL	SCL - silty clay loam
Histosol (A1)									
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Thick Dark Surface (A11) Thick 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) Red Parent Material (F21) (MLRA 148) Depth (inches): NA Dark Surface (S7) Dark Surface (S8) (MLRA 147, 148) Dark Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Depthed Dark Surface (F6) Depteted Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 136) Sandy Redox (S5) Red Parent Material (F21) (MLRA 148) Bepth (inches): NA Hydric Soil Present? Yes No									
Histosol (A1)									
Histosol (A1)									
Histosol (A1) Dark Surface (S7)	ype: C=C	oncentration, D=De	pletion, RN	I=Reduced Matrix, M	S=Masked	d Sand Gr	ains.	² Location: P	L=Pore Lining, M=Matrix.
Stratified Layers (A5) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Redox Dark Surface (F7) Depleted Dark Surface (F7) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122) MLRA 136) Wetland hydrology must be preser unless disturbed or problematic. Redox Depressions (F8) What I a a b a comparison of hydrophytic vegetation wetland hydrology must be preser unless disturbed or problematic. Redox Dark Surface (F7) Depleted Matrix (F3) Memarks: Wetry Shallow Dark Surface (TF12) Other (Explain in Remarks) Other (Explain in Remarks) In other (Explain in Remarks) Memarks: Wetland hydrophytic vegetation wetland hydrology must be preser unless disturbed or problematic. No Hydric Soil Present? Yes No	Histosol Histic E	l (A1) pipedon (A2)		Polyvalue Be	elow Surfa			2	cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16)
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) Stripped Matrix (S6) Estrictive Layer (if observed): Type: NA Depth (inches): NA Depth (inches): NA Depth (inches): NA Depth (inches): NA Depth (inches): MA Depth (inches	Stratifie	d Layers (A5)		Loamy Gleye	ed Matrix (trix (F3)	(F2)		<u> </u>	(MLRA 136, 147)
MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) Depth (inches): NA MLRA 136) Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) Wetland hydrology must be preser unless disturbed or problematic. Wetland hydrology must be preser unless disturbed or problematic. Hydric Soil Present? Yes No	Deplete	d Below Dark Surfa	ce (A11)	Depleted Da	rk Surface	(F7)			
Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be preser unless disturbed or problematic. Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Type: NA Depth (inches): NA Hydric Soil Present? Yes No	MLR	A 147, 148)	(LRR N,	MLRA 13	6)			3	
estrictive Layer (if observed): Type: NA Depth (inches): NA Hydric Soil Present? Yes No	Sandy F	Redox (S5)		Piedmont Flo	odplain S	oils (F19)	(MLRA 14	18) we	etland hydrology must be present,
Depth (inches): NA Hydric Soil Present? Yes No):				•	Í	<u>'</u>
emarks [,]	J							Hydric Soil	Present? Yes No V
Hydric soils criteria is not met.								Tryunc 3011	Present: Tes No
	H	ydric soils criter	ia is not i	net.					



Upland data point wcuk003_u facing North



Upland data point wcuk003_u facing South



Upland data point wcuk003_u soil sample

Project/Site: Southeast Reliability Project City/	County: NA/Cumberland Sampling Date: 07/23/14					
Applicant/Owner: Dominion State: VA Sampling Point: wcuk004f_						
Investigator(s): W. Medlin, J. Sweitzer Sect	tion, Township, Range: NA					
Landform (hillslope, terrace, etc.): drainage Local re	elief (concave, convex, none): <u>concave</u> Slope (%): <u>0-3</u>					
Subregion (LRR or MLRA): LRR P Lat: 37.366347	Long: <u>-78.408392</u> Datum: NAD 1983					
Soil Map Unit Name: Mayodan-Exway complex, 7 to 15 percent	slopes NWI classification: PFO1C					
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 distu	urbed? Are "Normal Circumstances" present? Yes ✓ No ✓ No					
Are Vegetation, Soil, or Hydrology naturally problem	natic? (If needed, explain any answers in Remarks.)					
SUMMARY OF FINDINGS – Attach site map showing sa	mpling point locations, transects, important features, etc.					
Hydrophytic Vegetation Present? Yes Vo No	Is the Sampled Area					
Hydric Soil Present? Yes ✓ No	Is the Sampled Area within a Wetland? Yes Vo					
Wetland Hydrology Present? Yes ✓ No No						
Remarks:						
This area is a small wetland drainage that is situated in a gu	ully-like area. Very little herbaceous layer, but evidence of					
seasonal ponding observed. All three criteria met. Area is a						
*Photos 100-0203 to 0207						
HYDROLOGY						
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)					
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)					
Surface Water (A1) True Aquatic Plants						
High Water Table (A2) Hydrogen Sulfide O						
	eres on Living Roots (C3) Moss Trim Lines (B16)					
Water Marks (B1) Presence of Reduce						
	ion in Tilled Soils (C6) Crayfish Burrows (C8)					
Drift Deposits (B3) Thin Muck Surface (*					
Algal Mat or Crust (B4) Other (Explain in Re	emarks) Stunted or Stressed Plants (D1)					
Iron Deposits (B5)	Geomorphic Position (D2)					
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)					
Water-Stained Leaves (B9)	Microtopographic Relief (D4)					
Aquatic Fauna (B13)	FAC-Neutral Test (D5)					
Field Observations:	Δ					
Surface Water Present? Yes No Depth (inches): No						
Water Table Present? Yes No Depth (inches): No						
Saturation Present? Yes No Depth (inches): No long Depth (inches): No	Metland Hydrology Present? Yes ✓ No ✓ No ✓					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pr	evious inspections), if available:					
NA						
Remarks:						
Hydrology criteria met.						

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

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 ft radius)	% Cover	Species?		Number of Dominant Species
_{1.} Liquidambar styraciflua	80	<u>Y</u>	FAC	That Are OBL, FACW, or FAC: 8 (A)
2. Acer rubrum	20		FAC	
3. Quercus alba	60	\overline{Y}	FACU	Total Number of Dominant Species Across All Strata: 11 (B)
Ouercus volutina	50	\overline{Y}	NI	Species Across All Strata (b)
		<u> </u>		Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 73 (A/B)
6				Prevalence Index worksheet:
	210	= Total Cov	er	
50% of total cover: 105	20% of	total cover:	42	Total % Cover of: Multiply by:
Sapling Stratum (Plot size: 15 ft radius		total oo toll		OBL species $0 \times 1 = 0$
1. Fraxinus pennsylvanica	5		FACW	FACW species 40 x 2 = 80
	15	Y	FAC	FAC species $\underline{140}$ $x_3 = \underline{420}$
2. Acer rubrum				FACU species 70 x 4 = 280
_{3.} Nyssa sylvatica	15	<u>Y</u>	FAC	UPL species 0 $x = 0$
4				Column Totals: 250 (A) 780 (B)
5				Column rotals. 200 (A) 700 (B)
6.				Prevalence Index = B/A = 3.12
o	35	= Total Cov		Hydrophytic Vegetation Indicators:
				1
50% of total cover: 17.5	20% of	total cover:	7	1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size: 15 ft radius				2 - Dominance Test is >50%
1. Nyssa sylvatica	10	Υ	FACW	3 - Prevalence Index is ≤3.0 ¹
2. Vaccinium corymbosum	15	Y	FACW	4 - Morphological Adaptations ¹ (Provide supporting
3 Fagus grandiflora	5		FACU	data in Remarks or on a separate sheet)
<u> </u>				Problematic Hydrophytic Vegetation ¹ (Explain)
4				
5				¹ Indicators of hydric soil and wetland hydrology must
6				be present, unless disturbed or problematic.
	30	= Total Cov	er	Definitions of Five Vegetation Strata:
50% of total cover: 15	200/ of	total aguar	6	Definitions of Five vegetation strata.
	20% 01	total cover:	-	Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size: 10 ft radius)	40	V	E A O\A/	approximately 20 ft (6 m) or more in height and 3 in.
1. Fraxinus pennsylvanica	10	<u>Y</u>	FACW	(7.6 cm) or larger in diameter at breast height (DBH).
_{2.} Quercus alba	5	Υ	FACU	Sapling – Woody plants, excluding woody vines,
_{3.} Liquidambar styraciflua	5	<u>Y</u>	FAC	approximately 20 ft (6 m) or more in height and less
4.				than 3 in. (7.6 cm) DBH.
5				Shrub – Woody plants, excluding woody vines,
6				approximately 3 to 20 ft (1 to 6 m) in height.
6				
7				Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
8				plants, except woody vines, less than approximately 3
9				ft (1 m) in height.
10				
11				Woody vine – All woody vines, regardless of height.
	20	= Total Cov	er	
10				
50% of total cover: 10	20% of	total cover:	4	
Woody Vine Stratum (Plot size: 15 ft radius)				
1. Campsis radicans	5	<u>Y</u>	FAC	
2				
3				
4				
n				1
<u> </u>	5			Hydrophytic
	5	= Total Cov	er	Vegetation
50% of total cover: 2.5				
	20% of			Vegetation
50% of total cover: 2.5 Remarks: (Include photo numbers here or on a separate s Hydrophytic vegetation criteria met. Very little he	20% of heet.)	total cover:	1	Vegetation Present? Yes ✓ No No

Sampling Point: wcuk004f_w

	-	to the dep	oth needed to docum			or confirm	the absence	of indicators.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	x Feature %	Type ¹	Loc ²	Texture	Remarks
0-2	10YR 5/1	90					silt loam	friable and dry
2-12	10YR 7/1	85	7.5YR 5/8	15	C	M	silt loam	dry
12-20	10YR 8/1	80	7.5YR 5/8	20	- C	M	SCL	SCL - silty clay loam
12-20	1011011	_ 60	1.511 5/6	20	. 	IVI	<u>3CL</u>	SCL - Silly Clay Idam
					-	. ——		
					-			
					. ——	. ——		
¹ Type: C=Co	oncentration, D=Dep	oletion, RM	=Reduced Matrix, MS	S=Maske	d Sand Gr	ains.	² Location: P	L=Pore Lining, M=Matrix.
Hydric Soil I	ndicators:						Indica	ators for Problematic Hydric Soils 3:
Histosol			Dark Surface					cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be				148) \square C	Coast Prairie Redox (A16)
Black Hi			Thin Dark Su			147, 148)		(MLRA 147, 148)
	n Sulfide (A4) I Layers (A5)		☐ Loamy Gleye ✓ Depleted Mat		(F2)		□ P	iedmont Floodplain Soils (F19) (MLRA 136, 147)
	ick (A10) (LRR N)		Redox Dark S		F6)		Πv	'ery Shallow Dark Surface (TF12)
	d Below Dark Surfac	e (A11)	Depleted Dar					other (Explain in Remarks)
	ark Surface (A12)		Redox Depre					
	lucky Mineral (S1) (LRR N,	☐ Iron-Mangan		ses (F12) (LRR N,		
	\ 147, 148)		MLRA 136				3	
	Sleyed Matrix (S4)		Umbric Surfa					licators of hydrophytic vegetation and
	edox (S5) Matrix (S6)		☐ Piedmont Flo☐ Red Parent M	•				etland hydrology must be present, less disturbed or problematic.
	_ayer (if observed)		Red r arent w	iateriai (i	Z1) (WILK	A 127, 147	, un	less disturbed of problematic.
Type: NA		•						
J	ches): NA						Hydric Soil	Present? Yes Vo No
Remarks:							i i jui i o o o ii	11050iii. 105 <u></u> 110 <u></u>
Hy	ydric soils criteri	a met.						
								,



Wetland data point wcuk004f_w facing East



Wetland data point wcuk004f_w facing West



Wetland data point wcuk004f_w soil sample

Project/Site: Dominion Southeast Reliability Project	City/County: C	Cumberland	Sampling Date: 07/23/2014
Applicant/Owner: Dominion		State: VA	Sampling Point: wcuk004_u
	Section, Towr		
Landform (hillslope, terrace, etc.): hillslope			Slope (%): 5-10
Subregion (LRR or MLRA). LRR P	<u> </u>	Long. 78.408492101	Datum: NAD 1983
Subregion (LRR or MLRA): LRR P Lat: 37.3 Soil Map Unit Name: Mayodan-Exway complex, 7 to 15 per	cent slopes	NWI classi	Datum: NAD 1983
Are climatic / hydrologic conditions on the site typical for this	time of year? Yes	No (If no, explain in	Remarks.)
Are Vegetation, Soil, or Hydrologys	ignificantly disturbed?	Are "Normal Circumstances"	" present? Yes No
Are Vegetation, Soil, or Hydrologyn			
SUMMARY OF FINDINGS – Attach site map			
Hydrophytic Vegetation Present? Yes No	0 1		
Hydric Soil Present? Yes No	Is the :	Sampled Area a Wetland?	No✓
Wetland Hydrology Present? Yes No		a Wellaliu: 165	
Remarks:	I		
Photos 104-4581 s, 4582 e, 4583 w, 4584 soil (J. Sweitzer	Camera)		
Upland plot established on hillslope in mature hardwood for	est.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indi	cators (minimum of two required)
Primary Indicators (minimum of one is required; check all t	hat apply)	Surface So	oil Cracks (B6)
Surface Water (A1) True	Aquatic Plants (B14)		egetated Concave Surface (B8)
	rogen Sulfide Odor (C1)		Patterns (B10)
Saturation (A3) Oxid	ized Rhizospheres on Liv	ring Roots (C3) Moss Trim	Lines (B16)
Water Marks (B1) Pres	ence of Reduced Iron (C	4) Dry-Seaso	n Water Table (C2)
Sediment Deposits (B2) Rece	ent Iron Reduction in Tille	d Soils (C6) Crayfish B	urrows (C8)
Drift Deposits (B3) Thin	Muck Surface (C7)	Saturation	Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Othe	er (Explain in Remarks)	Stunted or	Stressed Plants (D1)
Iron Deposits (B5)		Geomorph	ic Position (D2)
Inundation Visible on Aerial Imagery (B7)		Shallow Ac	quitard (D3)
Water-Stained Leaves (B9)		Microtopog	graphic Relief (D4)
Aquatic Fauna (B13)		FAC-Neutr	al Test (D5)
Field Observations:			
Surface Water Present? Yes No Dep			
Water Table Present? Yes No _✓ Dep			
Saturation Present? Yes No _ ✓ Dep	oth (inches):	Wetland Hydrology Pres	ent? Yes No✓
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, a	erial photos, previous in	nections) if available:	
NA	icital priotos, previous ins	spections), if available.	
Remarks:			
No indicators of wetland hydrology.			

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

Sampling Point: wcuk004_u

30 # B	Absolute	Dominant		Dominance Test worksheet:	
Tree Stratum (Plot size:30 ft R)		Species?		Number of Dominant Species	
1. Carya glabra	10	N	FACU	That Are OBL, FACW, or FAC:0 (A)	
2. Quercus phellos	20	N	FAC	Total Number of Deminant	
3. Quercus alba	60	Υ	FACU	Total Number of Dominant Species Across All Strata: 4 (B)	
Quercus falcata	40	Y	FACU	Openies / No cos / In Citata:	
"———				Percent of Dominant Species That Are ORL FACW or FAC:	
5				That Are OBL, FACW, or FAC: (A/B)	
6				Prevalence Index worksheet:	_
7					
	130	= Total Cove	er	Total % Cover of: Multiply by:	
50% of total cover: 65	20% of	total cover:	26	OBL species x 1 =	
Sapling/Shrub Stratum (Plot size: 15 ft R)				FACW species x 2 =	
1 Carya glabra	40	Υ	FACU	FAC species x 3 =	
2. Vaccinium corymbosum		N	FACW	FACU species x 4 =	
3. Juniperus virginiana			FACU	UPL species x 5 =	
	30	<u> </u>			
4. Vaccinium angustifolium		<u> </u>	FACU	Column Totals: (A) (B)	
5				Prevalence Index = B/A =	
6					_
7				Hydrophytic Vegetation Indicators:	
				1 - Rapid Test for Hydrophytic Vegetation	
8				2 - Dominance Test is >50%	
9				3 - Prevalence Index is ≤3.0¹	
		= Total Cove		4 - Morphological Adaptations ¹ (Provide supporting	
50% of total cover: 39	20% of	total cover:	16		į
Herb Stratum (Plot size: 5 ft R)				data in Remarks or on a separate sheet)	
_ NA				Problematic Hydrophytic Vegetation ¹ (Explain)	
1					
2				¹ Indicators of hydric soil and wetland hydrology must	
3				be present, unless disturbed or problematic.	
4				Definitions of Four Vegetation Strata:	_
5				Definitions of Four Vegetation Ordita.	
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or	
				more in diameter at breast height (DBH), regardless of	
7				height.	
8				Sapling/Shrub – Woody plants, excluding vines, less	
9				than 3 in. DBH and greater than or equal to 3.28 ft (1	
10				m) tall.	
11.				Harb All barbassays (non woody) plants regardless	
		Total Cove		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
50% of total cover:				or size, and woody plants loss than 5.25 it tall.	
20 54 5	20 /0 01	iolai covei.		Woody vine – All woody vines greater than 3.28 ft in	
Woody vine chatain (1 lot 5126.				height.	_
1. <i>NA</i>					
2					
3					
4					
				Hydrophytic	
5				Vegetation Present? Yes No _ ✓	
		= Total Cove	er	resent: res no	
50% of total cover:					
Remarks: (Include photo numbers here or on a separate si	20% of				_
Remarks: (Include photo numbers here or on a separate sill Vegetation fails dominance test and hydrophytes are not do	20% of heet.)				
·	20% of heet.)				
·	20% of heet.)				
·	20% of heet.)				
·	20% of heet.)				
·	20% of heet.)				
·	20% of heet.)				
·	20% of heet.)				

Sampling Point: wcuk004 u

SOIL

Profile Description: (Describe to the de	oth needed to docur	nent the ir	ndicator	or confirm	the absenc	e of indicate	ors.)		
Depth <u>Matrix</u>	Redo	x Features	<u> </u>						
(inches) Color (moist) %	Color (moist)	%	_Type ¹	Loc ²	Texture		Remark	(S	[
0-12 10YR 6/3 100	NA	NA	NA	NA	SL	Fine sand	dy loam		
						_			
						_			
						- ——			
						_			
						_			
						-			
¹ Type: C=Concentration, D=Depletion, RM	I=Reduced Matrix, MS	S=Masked	Sand Gra	ains.		PL=Pore Lin			. 3
Hydric Soil Indicators:						cators for P		-	ils":
Histosol (A1)	Dark Surface					2 cm Muck (, ,		
Histic Epipedon (A2)	Polyvalue Be		. , .		148)	Coast Prairie		6)	
Black Histic (A3)	Thin Dark Su			47, 148)		(MLRA 14			
Hydrogen Sulfide (A4)	Loamy Gleye		=2)		_	Piedmont FI		ils (F19)	
Stratified Layers (A5)	Depleted Ma					(MLRA 1			
2 cm Muck (A10) (LRR N)	Redox Dark					Very Shallov			
Depleted Below Dark Surface (A11)	Depleted Dar				_	Other (Expla	ain in Remar	ks)	
Thick Dark Surface (A12)	Redox Depre	•	,						
Sandy Mucky Mineral (S1) (LRR N,	Iron-Mangan	ese Masse	es (F12) (LRR N,					
MLRA 147, 148)	MLRA 13	•							
Sandy Gleyed Matrix (S4)	Umbric Surfa					idicators of h			and
Sandy Redox (S5)	Piedmont Flo	odplain So	oils (F19)	(MLRA 14	8) v	vetland hydro	ology must b	e present,	
Stripped Matrix (S6)	Red Parent N	/laterial (F2	21) (MLR	A 127, 147	') u	ınless disturb	ed or proble	ematic.	
Restrictive Layer (if observed):									
Type: NA									
Depth (inches): NA					Hvdric So	il Present?	Yes	No	✓
Remarks:									
No indicators of hydric soils observed.									



Upland data point wcuk004_u facing East



Upland data point wcuk004_u facing West



Upland data point wcuk004_u soil sample

Project/Site: Atlantic Coast Pipeline		City/C	ounty: Cumberland		Sampling Date: 1/7/2015
Applicant/Owner: DOMINION				State: VA	Sampling Point: wcuc001f_w
			on, Township, Range: No		
Landform (hillslope, terrace, etc.): Valley					
Subregion (LRR or MLRA): P	Lat: 37	7.36361384	Long: -78.4	40149205	Datum: WGS 1984
Soil Map Unit Name: Brickhaven-Creedn	noor complex, 21	to 7 percent slopes		NWI classific	cation: None
Are climatic / hydrologic conditions on the	e site typical for the	his time of year? Y	es No	(If no, explain in F	Remarks.)
Are Vegetation, Soil, or H	lydrology	significantly disturb	oed? Are "Normal	Circumstances"	oresent? Yes No
Are Vegetation, Soil, or H					
SUMMARY OF FINDINGS – At					
Hydrophytic Vegetation Present?	Yes 🗸	No			
Hydric Soil Present?	Yes V		Is the Sampled Area	V V	No
Wetland Hydrology Present?	Yes 🔽		within a Wetland?	res	NO
Remarks:					
HYDROLOGY					
Wetland Hydrology Indicators:				Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is r	equired; check a	ll that apply)		Surface Soil	Cracks (B6)
Surface Water (A1)	Tr	ue Aquatic Plants (I	B14)		getated Concave Surface (B8)
High Water Table (A2)		drogen Sulfide Odd		✓ Drainage Pa	
Saturation (A3)	O	kidized Rhizosphere	es on Living Roots (C3)	Moss Trim L	ines (B16)
Water Marks (B1)	Pr	esence of Reduced	Iron (C4)	Dry-Season	Water Table (C2)
Sediment Deposits (B2)	Re	ecent Iron Reduction	n in Tilled Soils (C6)	Crayfish Bur	rows (C8)
Drift Deposits (B3)		nin Muck Surface (C		Saturation V	isible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Ot	her (Explain in Ren	narks)		tressed Plants (D1)
Iron Deposits (B5)	(=-)				Position (D2)
Inundation Visible on Aerial Imager	y (B7)			Shallow Aqu	
Water-Stained Leaves (B9)					aphic Relief (D4)
Aquatic Fauna (B13)				FAC-Neutra	Trest (D5)
Field Observations: Surface Water Present? Yes	No D	lanth (inches).			
	No D		3		
	No D		0 Wetlend b	lydrology Presei	nt? Yes 🗸 No
(includes capillary fringe)	NO D	reptri (inches)	wetland r	iyarology Presei	it? fes No
Describe Recorded Data (stream gauge	, monitoring well	l, aerial photos, pre	vious inspections), if ava	ilable:	
December					
Remarks: Wetland hydrology present					
Wettand Hydrology present					

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

_)

50% of total cover: ___ 15

50% of total cover: ___0

50% of total cover:

50% of total cover: ___0

% Cover Species? Status

Yes

No

No

No

= Total Cover 20% of total cover:___

0___ = Total Cover 20% of total cover: 0

10 = Total Cover 5 20% of total cover: 2

0 = Total Cover

20% of total cover:

30

20

15

10

5

30

Tree Stratum (Plot size: ___

1. Salix nigra

3. Acer rubrum

2. Quercus stellata

4. Juniperus virginiana

5. Liquidambar styraciflua

Herb Stratum (Plot size: _ 1. Lonicera japonica

Sapling/Shrub Stratum (Plot size:

		Sampling	Point:	wcuc001f_w	/
dicator	Dominance Tes	st workshee	t:		
Status OBL	Number of Dom That Are OBL, F			3	(A)
FAC	Total Number of Species Across			4	(B)
FACU	Percent of Domi				(D)
FAC	That Are OBL, F			75	(A/B)
	Prevalence Ind	ex workshee	et:		
	Total % Cov	ver of:	N	lultiply by:	
16	OBL species	30	x 1 =	30	_
	FACW species	0	x 2 =	0	_
	FAC species	30	x 3 =	90	_
	FACU species	10	x 4 =	40	_
	UPL species	20		100	_
		90	x 5 =	260	- (D)
	Column Totals:		(A)		_ (B)
	Prevalence	e Index = B/	A =	2.88	_
	Hydrophytic Ve	egetation Inc	licator	s:	
	1 - Rapid Te	est for Hydro	phytic \	egetation/	
	🔽 2 - Dominar	nce Test is >	50%		
	✓ 3 - Prevaler	nce Index is s	3.0 ¹		
0	4 - Morphol	ogical Adapta	ations ¹	(Provide sup	porting
	-	Remarks or o			
		Hydrophytic			in)
FAC	1 100101114410	71174102117410	vogou	ation (Expla	,
FAC	¹ Indicators of hy be present, unle				must
	Definitions of F				
	Definitions of F	our vegetat	1011 311	ala.	
	Tree – Woody p more in diamete height.		_		,
	Sapling/Shrub than 3 in. DBH am) tall.				
	Herb – All herba of size, and woo				rdless
2	Woody vine – A height.	All woody vine	es grea	ter than 3.28	ft in
	- V				
	Hydrophytic				
	Vegetation	Ven b	/ .	lo.	
0	Present?	Yes	r	No	
	<u> </u>				

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

Woody Vine Stratum (Plot size: ______)

2. Smilax rotundifolia

Sampling Point: wcuc001f_w

Profile Des	cription: (Describe	to the de				or confirm	the absence	ce of indicators.)
Depth	Matrix		Redo	x Feature		. 2		
(inches)	Color (moist)	<u>%</u>	Color (moist) 10 YR 5/6	<u>%</u>	Type ¹	Loc ²	<u>Texture</u> CL	Remarks
0-10	2.5 Y 5/2	90		10	C	PL/M		
10-14	2.5 Y 5/1	90	10 YR 5/6	10	C	PL/M	CL	
								_
		-						
						-		_
								_
	concentration, D=Depl	letion, RN	M=Reduced Matrix, M	S=Masked	d Sand G	ains.		PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators:						Indi	cators for Problematic Hydric Soils ³ :
Histoso	l (A1)		Dark Surface	e (S7)				2 cm Muck (A10) (MLRA 147)
Histic E	pipedon (A2)		Polyvalue Be	elow Surfa	ce (S8) (I	MLRA 147,	148)	Coast Prairie Redox (A16)
Black H	istic (A3)		Thin Dark Su	ırface (S9) (MLRA	147, 148)		(MLRA 147, 148)
Hydroge	en Sulfide (A4)		Loamy Gleye	ed Matrix ((F2)			Piedmont Floodplain Soils (F19)
	d Layers (A5)		✓ Depleted Ma					(MLRA 136, 147)
	uck (A10) (LRR N)		Redox Dark		- 6)			Very Shallow Dark Surface (TF12)
	d Below Dark Surface	e (A11)	Depleted Da		,			Other (Explain in Remarks)
	ark Surface (A12)	,	Redox Depre					
	Mucky Mineral (S1) (L	RR N.	Iron-Mangan			LRR N.		
	A 147, 148)	,	MLRA 13		00 (1 12)	(=::::,		
	Gleyed Matrix (S4)		Umbric Surfa	-	/MI D A 1	36 122\	3 ₁ ,	ndicators of hydrophytic vegetation and
	Redox (S5)		Piedmont Flo					vetland hydrology must be present,
	d Matrix (S6)		Red Parent N	viateriai (F	·21) (WLF	KA 127, 147	<u>')</u>	unless disturbed or problematic.
	Layer (if observed):							
Type:								.4
Depth (in	iches):						Hydric Sc	oil Present? Yes No
Remarks:							1	
lydric soil pr	esent							



Photo 1
Wetland data point wcuc001f_w facing north



Photo 2
Wetland data point wcuc001f_w facing east



Photo 3
Wetland data point wcuc001f_w facing south



Photo 4
Wetland data point wcuc001f_w facing west

Project/Site: Atlantic Coast Pipeline		City/0	County: Cumberland		Sampling Date: 1/7/2015
Applicant/Owner: DOMINION				State: VA	Sampling Point: wcuc001_u
			on, Township, Range: No		
Landform (hillslope, terrace, etc.): Hill Slope					
Subregion (LRR or MLRA):	Lat: 37.3	6367108	Long: -78.4	40134458	Datum: WGS 1984
Soil Map Unit Name: Brickhaven-Creedmoo	or complex, 2 to	7 percent slopes		NWI classific	cation: None
Are climatic / hydrologic conditions on the s	ite typical for this	time of year?	∕es <u> </u>	(If no, explain in R	Remarks.)
Are Vegetation, Soil, or Hyd	lrologys	ignificantly distu	rbed? Are "Normal	Circumstances" p	oresent? Yes No
Are Vegetation, Soil, or Hyd					
SUMMARY OF FINDINGS – Atta					
Lhidronhistia Variation Dragant?	Vee N			<u>·</u>	<u> </u>
	Yes No Yes No		Is the Sampled Area		
	Yes No		within a Wetland?	Yes	No
Remarks:		<u> </u>			
HYDROLOGY					
Wetland Hydrology Indicators:					ators (minimum of two required)
Primary Indicators (minimum of one is req				Surface Soil	
Surface Water (A1)		Aquatic Plants			getated Concave Surface (B8)
High Water Table (A2)	-	ogen Sulfide Od		Drainage Pa	
Saturation (A3)			• ,	Moss Trim L	
Water Marks (B1) Sediment Deposits (B2)		ence of Reduce	on in Tilled Soils (C6)	Crayfish Bur	Water Table (C2)
Drift Deposits (B3)		Muck Surface (isible on Aerial Imagery (C9)
Algal Mat or Crust (B4)		er (Explain in Re			stressed Plants (D1)
Iron Deposits (B5)			,	· 	Position (D2)
Inundation Visible on Aerial Imagery ((B7)			Shallow Aqu	
Water-Stained Leaves (B9)				Microtopogra	aphic Relief (D4)
Aquatic Fauna (B13)				FAC-Neutral	Test (D5)
Field Observations:					
	No 🖊 Dep				
	No 🔽 Dep				
Saturation Present? Yes (includes capillary fringe)	No 🔽 Dep	oth (inches):	Wetland H	lydrology Preser	nt? Yes No
Describe Recorded Data (stream gauge, r	monitoring well, a	aerial photos, pre	evious inspections), if ava	ilable:	
Remarks:					
No wetland hydrology present					

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

_)

50% of total cover: ___

50% of total cover: ____7.5

30

Sapling/Shrub Stratum (Plot size: 15)

Tree Stratum (Plot size:

1. quercus coccinea

3. Juniperus virginiana

2. Quercus falcata

1. Quercus falcata

Herb Stratum (Plot size: 1. Polystichum acrostichoides

2. Smilax rotundifolia

50% of total cover: 7.5 20% of total cover: 3

mes of	plants.		Sampling Point: wcuc001_u
Absolute	Dominant I		Dominance Test worksheet:
35	Species? Yes	Status	Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)
30	Yes	FACU	Total Noveless of Descious
25	Yes	FACU	Total Number of Dominant Species Across All Strata: 6 (B)
			Percent of Dominant Species That Are OBL, FACW, or FAC: 16.6666666 (A/B)
			Prevalence Index worksheet:
55	= Total Cove	r	Total % Cover of: Multiply by:
20% of	total cover:_	18	OBL species $0 \times 1 = 0$
			FACW species x 2 = 0
15	Yes	FACU	FAC species X 3 =
			PACO species
			UPL species
			Column Totals: (A) (B)
			Prevalence Index = B/A = 3.94
			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
15	= Total Cove	<u></u>	3 - Prevalence Index is ≤3.0¹
	total cover:_	3	4 - Morphological Adaptations ¹ (Provide supporting
			data in Remarks or on a separate sheet)
10	Yes	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
5	Yes	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
			Definitions of Four Vegetation Strata:
			Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
			Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
15	= Total Cove		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
20% of	total cover:_	3	Woody vine – All woody vines greater than 3.28 ft in height.
	= Total Cove	r 0	Hydrophytic Vegetation Present? Yes No

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

50% of total cover: ___0

Woody Vine Stratum (Plot size: ______)

Profile Desc	ription: (Describe	to the de	oth needed to docun	nent the i	ndicator	or confirm	the absenc	e of indicators	i.)
Depth	Matrix		Redox	x Feature	s				
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>		Remarks
0-8	2.5 Y 4/4	100				<u> </u>	SL		
8-14	5 Y 7/2	40	10 YR 6/8	10	С	PL/M	SL		
	2.5 Y 6/4	50			-		SL	-	
					-				
								-	
		- ——						-	
						<u> </u>			
1Type: C-C	oncentration D-Den	Jetion RM	=Reduced Matrix, MS		I Sand Gr	aine	² Location: I	- PL=Pore Lining,	M-Matrix
Hydric Soil		ieuon, Kiv	=Reduced Matrix, Mc	=ivia5ket	Janu Gi	airis.			plematic Hydric Soils ³ :
Histosol			Dark Surface	(\$7)				2 cm Muck (A10	· ·
	oipedon (A2)		Polyvalue Be		ce (S8) (N	/ILRA 147		Coast Prairie R	, .
	stic (A3)		Tolyvalde Be				,	(MLRA 147,	, ,
	en Sulfide (A4)		Loamy Gleye			., . ,			dplain Soils (F19)
	d Layers (A5)		Depleted Mat		,			(MLRA 136,	
	ıck (A10) (LRR N)		Redox Dark S		- 6)				ark Surface (TF12)
Depleted	d Below Dark Surfac	e (A11)	Depleted Dar	k Surface	(F7)			Other (Explain i	in Remarks)
	ark Surface (A12)		Redox Depre						
	lucky Mineral (S1) (L	_RR N,	Iron-Mangane		es (F12) (LRR N,			
	A 147, 148)		MLRA 136				3.		
	Gleyed Matrix (S4)		Umbric Surfa						rophytic vegetation and
	Redox (S5)		Piedmont Flo						gy must be present,
	Matrix (S6)		Red Parent M	riateriai (F	21) (WLR	A 127, 147	<u>r) u</u>	niess disturbed	or problematic.
	Layer (if observed):								
Type:									
Depth (in	ches):						Hydric So	il Present?	Yes No
Remarks:									
No hydric soil	present								



Photo 1 Upland data point wcuc001_u facing north



Photo 2 Upland data point wcuc001_u facing east



Photo 3
Upland data point wcuc001_u facing south



Photo 4
Upland data point wcuc001_u facing west

Project/Site: Atlantic Coast Pi	peline	City/C	ounty: Cumberland Cou	inty	Sampling Date: 6/28/2016
Applicant/Owner: Dominion				State: VA	_ Sampling Point: wcua400f_w
Investigator(s): GB, KO		Section	on, Township, Range: ^{No}	PLSS in this area	
Landform (hillslope, terrace, e					Slone (%): 4
Subregion (LRR or MLRA): P Soil Map Unit Name: Chewac	la and Monacan so	ils 0 to 2 percent slopes fre	equently flooded	NNA/I -1'6'	PFO
Are climatic / hydrologic condi					
Are Vegetation, Soil	, or Hydrology	/ significantly distur	bed? Are "Norma	I Circumstances" pr	esent? Yes No
Are Vegetation, Soil	, or Hydrology	/ naturally problema	atic? (If needed, e	explain any answers	s in Remarks.)
SUMMARY OF FINDIN	GS – Attach si	te map showing sam	pling point location	ons, transects,	important features, etc.
Hydrophytic Vegetation Pres	ent? Yes	✓ No			
Hydric Soil Present?	Yes	No	Is the Sampled Area	Yes 🗸	No
Wetland Hydrology Present?		_	within a Wetland?	res	
Remarks:					
	ly flooded PFO wet	land along perennial stream	scua400; area is a rece	ent clear cut; heavy	beaver influence. NCWAM key
= riverine swamp forest					
HYDROLOGY					
Wetland Hydrology Indicat	ors:			Secondary Indicate	ors (minimum of two required)
Primary Indicators (minimum	of one is required;			Surface Soil C	` '
Surface Water (A1)		True Aquatic Plants (etated Concave Surface (B8)
High Water Table (A2)		Hydrogen Sulfide Odd		✓ Drainage Patte	
Saturation (A3)		Oxidized Rhizosphere		Moss Trim Lin	
Water Marks (B1)		Presence of Reduced			/ater Table (C2)
Sediment Deposits (B2)		Recent Iron Reductio		Crayfish Burro	, ,
Drift Deposits (B3) Algal Mat or Crust (B4)		Thin Muck Surface (C Other (Explain in Ren			ible on Aerial Imagery (C9) essed Plants (D1)
Iron Deposits (B5)		Other (Explain in Ken	iaiks)	Geomorphic P	
Inundation Visible on Ae	erial Imagery (B7)			Shallow Aquita	
Water-Stained Leaves (I					hic Relief (D4)
Aquatic Fauna (B13)	,			✓ FAC-Neutral T	
Field Observations:					· ,
Surface Water Present?	Yes No	Depth (inches):			
Water Table Present?		Depth (inches):			
Saturation Present?		Depth (inches):		Hydrology Present	? Yes 🗸 No
(includes capillary fringe)					
Describe Recorded Data (str	eam gauge, monito	oring well, aerial photos, pre	vious inspections), if ava	allable:	
Remarks:					

Sampling Point: wcua400f_w	Sampling	Point-wcua400f_w	
----------------------------	----------	------------------	--

00	Absolute	Dominant In		Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover		Status FAC	Number of Dominant Species
1. Acer rubrum		Yes	FAC	That Are OBL, FACW, or FAC: 9 (A)
2. Liquidambar styraciflua	4	Yes	FAC	Total Number of Descious
3. Pinus taeda	3	Yes	FAC	Total Number of Dominant Species Across All Strata: 9 (B)
4				(2)
				Percent of Dominant Species That Are ORL FACW or FAC: 100 (A/R)
				That Are OBL, FACW, or FAC: (A/B)
6				Prevalence Index worksheet:
7	12			Total % Cover of: Multiply by:
•	:	= Total Cover		45 45
50% of total cover: 6	20% of	total cover:	2.4	/5 × 1 =
Sapling/Shrub Stratum (Plot size: 15				FACW species x 2 =
1. Acer rubrum	15	Yes	FAC	FAC species x 3 =
2. Liquidambar styraciflua	10	Yes	FAC	FACU species0 x 4 =0
3. Quercus phellos	10	Yes	FAC	UPL species0 x 5 =0
4. Pinus taeda	5	No	FAC	Column Totals:(A)(B)
	5	No No	FACW	
5. Fraxinus pennsylvanica			TAOW	Prevalence Index = B/A =2.04
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9.				
-	45	= Total Cover		✓ 3 - Prevalence Index is ≤3.0 ¹
50% of total cover: 22.5		total cover:	9	4 - Morphological Adaptations ¹ (Provide supporting
F	2070 01			data in Remarks or on a separate sheet)
Herb Stratum (Plot size:) 1. Juncus effusus	25	Yes	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Echinochloa crus-pavonis	15	Yes	FACW	¹ Indicators of hydric soil and wetland hydrology must
3. Eleocharis palustris	15	Yes	OBL	be present, unless disturbed or problematic.
4. Carex lupulina	10	No	OBL	Definitions of Four Vegetation Strata:
5. Carex vulpinoidea	10	No	OBL	John Mondo of Four Vogotation Official
6. Carex prasina	10	No	OBL	Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or
-				more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb - All herbaceous (non-woody) plants, regardless
	85	= Total Cover		of size, and woody plants less than 3.28 ft tall.
50% of total cover: 42.5	20% of	total cover:	17	Was decides Allowed to the sector than 2 20 ft in
Woody Vine Stratum (Plot size:)				Woody vine – All woody vines greater than 3.28 ft in height.
1. none	0			noight.
2				
3				
4				Hydrophytic
5				Vegetation
	0 :	= Total Cover		Present? Yes No
50% of total cover: 0	20% of	total cover:	0	
Remarks: (Include photo numbers here or on a separate s	heet.)			1
, , ,	,			

/· · · ·	Matrix			x Features		. 2	- .	5
(inches) 0-4	Color (moist) 10YR 4/1	<u>%</u> 85	Color (moist) 7.5YR 4/6	<u>%</u> 15	Type ¹ C	Loc ² PL/M	<u>Texture</u> CL	Remarks
			7.51K 4/0					
4-10	10YR 5/3	100					SL	
10-18	10YR 5/1	80	10YR 5/8	20	С	PL/M	С	
		_			-			
			-		-			•
								· -
				· ·				
								-
	_							
								-
vpe: C=C	oncentration, D=De	oletion, RM	l=Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location: F	PL=Pore Lining, M=Matrix.
	Indicators:	51041011, 1411	i—rtoadood matrix, m	<u>o-maonoa</u>	Ourid Oil		Indic	eators for Problematic Hydric Soils ³ :
_ Histosol			Dark Surface	e (S7)				2 cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be		e (S8) (N	ILRA 147.	· · · · · · · · · · · · · · · · · · ·	Coast Prairie Redox (A16)
	istic (A3)		Thin Dark Su				, _	(MLRA 147, 148)
	en Sulfide (A4)		Loamy Gley	ed Matrix (F	-2)		F	Piedmont Floodplain Soils (F19)
_ Stratified	d Layers (A5)		✓ Depleted Ma	trix (F3)				(MLRA 136, 147)
_ 2 cm Mı	uck (A10) (LRR N)		Redox Dark	Surface (F	6)			Very Shallow Dark Surface (TF12)
	d Below Dark Surfac	ce (A11)	Depleted Da		. ,		(Other (Explain in Remarks)
	ark Surface (A12)		Redox Depre					
	Mucky Mineral (S1) (LRR N,	Iron-Mangar		s (F12) (LRR N,		
	A 147, 148)		MLRA 13	-			3.	
	Gleyed Matrix (S4)		Umbric Surfa					dicators of hydrophytic vegetation and
	Redox (S5)		Piedmont Flo					etland hydrology must be present,
	l Matrix (S6) Layer (if observed)		Red Parent l	vialeriai (F2	21) (WILK	A 127, 147) ui	nless disturbed or problematic.
Conficure	Layer (ii observed)	•						
Tuna. Cla	ay .							
Type: cla								1.Duna 2010 - Van - V
Type: cla	ches): 10						Hydric Soi	l Present? Yes V No
Type: cla							Hydric Soi	l Present? Yes <u> </u>
Type: cla			<u> </u>				Hydric Soi	I Present? Yes V No
Type: cla							Hydric Soi	I Present? Yes V No
Type: cla							Hydric Soi	I Present? Yes V No
Type: cla							Hydric Soi	I Present? Yes <u>V</u> No
Type: cla							Hydric Soi	I Present? Yes <u>V</u> No
Type: cla							Hydric Soi	I Present? Yes <u>V</u> No
Type: cla							Hydric Soi	I Present? Yes <u>V</u> No
Type: cla							Hydric Soi	I Present? Yes V No
Type: cla							Hydric Soi	I Present? Yes <u>V</u> No
Type: cla							Hydric Soi	I Present? Yes V No
Type: cla							Hydric Soi	I Present? Yes V No
Type: cla							Hydric Soi	I Present? Yes <u>V</u> No
Type: cla							Hydric Soi	I Present? Yes <u>V</u> No
Type: cla							Hydric Soi	I Present? Yes <u>v</u> No
Type: cla							Hydric Soi	I Present? Yes <u>v</u> No
Type: cla							Hydric Soi	I Present? Yes <u>v</u> No
Type: cla							Hydric Soi	I Present? Yes <u>v</u> No
Type: cla							Hydric Soi	I Present? Yes <u>v</u> No
Type: cla							Hydric Soi	I Present? Yes V No No
Type: cla							Hydric Soi	I Present? Yes V No No
Type: cla							Hydric Soi	I Present? Yes V No No
Type: cla							Hydric Soi	I Present? Yes V No No



Wetland data point WCUA400f_w facing southeast



Wetland data point WCUA400f_w facing southwest

Project/Site: Atlantic Coast Pipeline	City/County: Cum	berland County	_ Sampling Date: 6/28/2016			
Applicant/Owner: Dominion	City/County: Cum	State: VA	Sampling Point: Wcua400_u			
	Section, Township, Range: No PLSS in this area					
	Local relief (concave,					
Subregion (LRR or MLRA): P						
Soil Map Unit Name: Brickhaven-Creedmoor complex	x, 7 to 15 percent slopes	NWI classif	ication. UPLAND			
Are climatic / hydrologic conditions on the site typical						
Are Vegetation, Soil, or Hydrology						
Are Vegetation, Soil, or Hydrology						
SUMMARY OF FINDINGS – Attach site	map snowing sampling pol	nt locations, transect	s, important features, etc.			
Hydrophytic Vegetation Present? Yes	No Is the Sam	nled Area				
	— No 🗸 within a W		No			
Wetland Hydrology Present? Yes	No		<u> </u>			
HYDROLOGY						
Wetland Hydrology Indicators:			cators (minimum of two required)			
Primary Indicators (minimum of one is required; che		Surface So				
	_ True Aquatic Plants (B14)		egetated Concave Surface (B8)			
1	_ Hydrogen Sulfide Odor (C1)		atterns (B10)			
	Oxidized Rhizospheres on Living					
	Presence of Reduced Iron (C4)Recent Iron Reduction in Tilled So	· ·	n Water Table (C2)			
Drift Deposits (B3)	Thin Muck Surface (C7)		Visible on Aerial Imagery (C9)			
	_ Other (Explain in Remarks)		Stressed Plants (D1)			
Iron Deposits (B5)			c Position (D2)			
Inundation Visible on Aerial Imagery (B7)		Shallow Aq				
Water-Stained Leaves (B9)			raphic Relief (D4)			
Aquatic Fauna (B13)		FAC-Neutra	al Test (D5)			
Field Observations:						
	Depth (inches):					
Water Table Present? Yes No	Depth (inches):					
	Depth (inches):	Wetland Hydrology Prese	ent? Yes No			
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous inspec	L ctions), if available:				
Remarks: no hydrology indicators present						
Tho flydrology indicators present						

Sampling	Point: wcua400_	u
Januaria	i Ollit. –	_

00	Absolute	Dominant Ir		Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover		Status	Number of Dominant Species
1. Juniperus virginiana	5	Yes	FACU	That Are OBL, FACW, or FAC: 6 (A)
2. Pinus taeda		Yes	FAC	Total Number of Dominant
3				Species Across All Strata: 9 (B)
4				Description of Description
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 66.6666666 (A/B)
6				
7.				Prevalence Index worksheet:
	10	= Total Cover	-	Total % Cover of: Multiply by:
50% of total cover: 5		total cover:	2	OBL species x 1 =0
Sapling/Shrub Stratum (Plot size: 15)				FACW species3
1 Rubus argutus	20	Yes	FACU	FAC species118 x 3 =354
2. Liquidambar styraciflua	10	Yes	FAC	FACU species47
3. Acer rubrum	10	Yes	FAC	UPL species0 x 5 =0
4. Quercus falcata	10	Yes	FACU	Column Totals: 168 (A) 548 (B)
5. Pinus taeda	8	No	FAC	
6. Liriodendron tulipifera	7	No	FACU	Prevalence Index = B/A =3.26
-	5		FACU	Hydrophytic Vegetation Indicators:
7. Ulmus alata		No		1 - Rapid Test for Hydrophytic Vegetation
8. Quercus phellos	5	No	FAC	2 - Dominance Test is >50%
_{9.} Pinus virginiana	5	No		3 - Prevalence Index is ≤3.0 ¹
		= Total Cover		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 40	20% of	total cover:	16	data in Remarks or on a separate sheet)
Herb Stratum (Plot size:5				
1. Solidago rugosa	30	Yes	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Panicum capillare	20	Yes	FAC	4
3. Juncus tenuis	10	No	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Lespedeza angustifolia	10	No	FAC	
5. Juncus effusus	3	No	FACW	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
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				m) tall.
11	72			Herb – All herbaceous (non-woody) plants, regardless
26.5		= Total Cover		of size, and woody plants less than 3.28 ft tall.
50% of total cover: 36.5	20% of	total cover:	14.0	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size:)	40	V	540	height.
1. Campsis radicans	10	Yes	FAC	
2				
3				
4				Hydrophytic
5				Vegetation
	10	= Total Cover	r	Present? Yes No No
50% of total cover:5		total cover:	2	
Remarks: (Include photo numbers here or on a separate s	heet.)			
	,			

Sampling Point: wcua400_u

SOIL

Depth	Matrix		Redox Features	<u></u>	
(inches)	Color (moist)	%	Color (moist) % Type ¹ Loc		Remarks
0-3	10YR 3/3	100		SL	
3-10	10YR 5/6	100		SL	
				LS	
10-18	10YR 6/4	100		LS	
	-				<u> </u>
	-				
					_
1Typo: C-C	oncontration D-Dor	Notion PM-P	educed Matrix, MS=Masked Sand Grains.	² Location:	PL=Pore Lining, M=Matrix.
Hydric Soil		DIELIOII, KIVI=K	educed Matrix, MS=Masked Sarid Grains.		cators for Problematic Hydric Soils ³ :
•			Darle Conform (CZ)		
Histosol			Dark Surface (S7)		2 cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Below Surface (S8) (MLRA 1		Coast Prairie Redox (A16)
	istic (A3) en Sulfide (A4)		Thin Dark Surface (S9) (MLRA 147, 14Loamy Gleyed Matrix (F2)		(MLRA 147, 148) Piedmont Floodplain Soils (F19)
	d Layers (A5)		Loamy Gleyed Matrix (F2) Depleted Matrix (F3)		(MLRA 136, 147)
	uck (A10) (LRR N)		Redox Dark Surface (F6)		Very Shallow Dark Surface (TF12)
	d Below Dark Surfac	· (Δ11)	Depleted Dark Surface (F7)		Other (Explain in Remarks)
	ark Surface (A12)	C (A11)	Redox Depressions (F8)		Other (Explain in Remarks)
	Mucky Mineral (S1) (I RR N	Iron-Manganese Masses (F12) (LRR N		
	A 147, 148)	LICIT IV,	MLRA 136)	,	
	Gleyed Matrix (S4)		Umbric Surface (F13) (MLRA 136, 122)	3lr	ndicators of hydrophytic vegetation and
	Redox (S5)		Piedmont Floodplain Soils (F19) (MLRA		vetland hydrology must be present,
	d Matrix (S6)		Red Parent Material (F21) (MLRA 127,		inless disturbed or problematic.
	Layer (if observed)		Near arent Material (121) (MERA 121,	147)	inicos distarbed or problematic.
Type: no		•			
			_		
Depth (in	ches):		_	Hydric Sc	oil Present? Yes No
Remarks:					



Upland data point WCUA400_u facing north



Upland data point WCUA400_u facing east

Project/Site: SFRP	City/County: COMBER LAND Sampling Date: 08/25/2019
Applicant/Owner: DOMINION	State: VA Sampling Point: WCUROIY
Investigator(s): J. SWEITTER	Section, Township, Range: NA
	ocal relief (concave, convex, none) NONE Slope (%): 1-3
Subregion (LRR or MLRA): LRPP Lat: 37,363	573463 Long: 78,392461888 Datum: NA0192
	NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of	
	ly disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally p	
The state of the s	ng sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Yes No	Is the Sampled Area within a Wetland? Yes No No
Remarks: POINT ESTABLISMED IN NARROW	WETCAND MALE, ALL 3 CRITERIA WALD
PHOTOS 100-0125 TO 0130	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	
Surface Water (A1)	
High Water Table (A2) Hydrogen Su	Ifide Odor (C1) Drainage Patterns (B10)
	zospheres on Living Roots (C3) Moss Trim Lines (B16)
 	Reduced Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Drift Deposits (B3) Recent Iron F Thin Muck Su	Reduction in Tilled Soils (C6) Crayfish Burrows (C8) urface (C7) Saturation Visible on Aerial Imagery (C9)
	n in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13) Field Observations:	FAC-Neutral Test (D5)
Surface Water Present? Yes No Depth (inche	At A Market
Water Table Present? Yes No Depth (inche	· — · · · · · · · · · · · · · · · · · ·
Saturation Present? Yes No Depth (inche	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial pho	
MA	tos, previous inspections), il available.
Remarks: SEVERA PRIMARY AND SECOND	AZY INDICATORS OF WETCHUS HYDROGE
20/1/16	
PRÉJENT.	
	•
I .	

210	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 5 i b	% Cover Species? Status	Number of Dominant Species
1. LIQUIDAMEGR STYAMOIFWA.	20 Y FAC	That Are OBL, FACW, or FAC: (A)
2.		Total Number of Dominant
3		Species Across All Strata: (B)
4		
		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
5		That Are OBL, FACW, or FAC: (A/B)
6		Prevalence Index worksheet:
7	5 7 T	Total % Cover of: Multiply by:
Sapling Stratum (Plot size: _5'D)	ĕ 20 = Total Cover	OBL species x 1 = _1
1. Ach Rubrum	60 Y FAC	FACW species x 2 = 1
2. LIQUEDAMBAR STYRACTICUA	30 Y FAC	FAC species x3 = 1
	_ 30	
3		FACU species x 4 = 1
4		UPL species x 5 =
5		Column Totals: 0 (A) 5 (B)
, 6		
7		Prevalence Index = B/A =
-1-	990 = Total Cover 45/19	Hydrophytic Vegetation Indicators:
Shrub Stratum (Plot size: S. D.)		1 - Rapid Test for Hydrophytic Vegetation
1. VALUENTUM CORYMBOSON	_ 5 Y FACW	2 - Dominance Test is >50%
2. CARPENUS CAROLINEAWA	5 F FAC	3 - Prevalence Index is ≤3.0 ¹
3. ULMUS ALATA	5 P FALU	4 - Morphological Adaptations ¹ (Provide supporting
· ·		data in Remarks or on a separate sheet)
4	 	Problematic Hydrophytic Vegetation (Explain)
5		
6		¹ Indicators of hydric soil and wetland hydrology must
7		be present, unless disturbed or problematic.
Herb Stratum (Plot size: 5'0)	<u>* /5</u> = Total Cover 8 /3	Definitions of Five Vegetation Strata:
Herb Stratum (Plot size: (1)	~ = '	
1. LYCOPUS VIECENICOS	S FACW	Tree – Woody plants, excluding woody vines,
2. MOLA SP.	$\frac{2}{7}$ $\frac{N}{N}$ $\frac{N}{500}$	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
3. PRUMILLA LULLARES		(7.0 diff) of larger in diameter at breast height (DBH).
4. LIQUEDAMBAIL STILACE FULLA	Z M FAC	Sapling – Woody plants, excluding woody vines,
5.		approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
,6		alan 5 in. (7.6 cm) DBH.
7		Shrub - Woody plants, excluding woody vines,
7 8		approximately 3 to 20 ft (1 to 6 m) in height.
0.		Herb – All herbaceous (non-woody) plants, including
9		herbaceous vines, regardless of size, and woody
10	_ 	plants, except woody vines, less than approximately
11		3 ft (1 m) in height.
12		Woody vine – All woody vines, regardless of height.
c ¹ D	<u>® / </u> = Total Cover 6/3	
Woody Vine Stratum (Plot size:)		, , .
1. CAMPIES RADICANS	40 V FAC	
2		
3		
4		Hydrophytic
5.		Vegetation Present? Yes No
	0 40 = Total Cover	169 100
		X.
Remarks: (Include photo numbers here or on a separate		
SMALL PLOT DUE TO NARROW	DRAINALE AREA V	EVETATION PASES DOGITARNIE
	•	, , , , ,
17 m		
TWIT		,

SOIL

Sampling Point: Wear

Profile Description: (Describe to the	depth needed to docur	nent the in	dicator or	confirm	m the absence of indicators.)
Depth Matrix		x Features	_ 1		
(inches) Color (moist) % 0-2 10 YK SIZ 94		· <u> </u>	Type ¹	Loc ²	Texture Remarks
			<u> </u>	PL	souly War
2-14 10 YR 7/2 50		50	<u> </u>	M	Loany fry sand (stripped)
14-18 10 4R 6/1 50	7.5 YR 516	50	0	M	CLAY LUAN
	,			-	`
				~	
					
	-				
1Transi Co-Consentration De Deviation	DM D 1 11/1/2 1/1/2				2
¹ Type: C=Concentration, D=Depletion, Hydric Soil Indicators:	RM=Reduced Matrix, Ms	S=Masked S	Sand Grain	ns.	² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	☐ Dark Surface	(97)			
Histic Epipedon (A2)	Polyvalue Be		e (S8) (MI	RA 147	2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16)
Black Histic (A3)	Thin Dark Su	ırface (S9) (MLRA 14	7, 148)	(MLRA 147, 148)
Hydrogen Sulfide (A4)	Loamy Gleye			, ,	Piedmont Floodplain Soils (F19)
Stratified Layers (A5)	Depleted Ma				(MLRA 136, 147)
2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11	Redox Dark				Red Parent Material (TF2)
Thick Dark Surface (A12)) Depleted Dar Redox Depre	,	,		Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
Sandy Mucky Mineral (S1) (LRR N				RR N.	Other (Explain in Remarks)
MLRA 147, 148)	MLRA 13		. (* / (= .	,	
Sandy Gleyed Matrix (S4)	Umbric Surfa				³ Indicators of hydrophytic vegetation and
Sandy Redox (S5)	Piedmont Flo	odplain Soi	ls (F19) (N	ILRA 14	
Stripped Matrix (S6)					unless disturbed or problematic.
Restrictive Layer (if observed):	· ·		•		
Type:	 				
					Hydric Soil Present? Yes No
Remarks:					
			-		
<u></u>					
L					a contract of the contract of
		5 W			150
					180
			(
		/ v	\		
		/ · · · · ·)		
	/		/		
	/ \ /	<i>(</i>			
3,00					
0,0					
W-345.W		-			<u>,</u>
MENKONAL W					
MEDIKON ON WILLIAM			UZVEY	EXTE	ENT



Wetland data point wcuk014f_w facing North



Wetland data point wcuk014f_w facing South



Wetland data point wcuk014f_w soil sample

Project/Site: SERP City/C	County: CUMBERLAND Sampling Date: 8/25/201
Applicant/Owner: DOM INION	State: VA Sampling Point: WCUKO
Investigator(s): J. SWEITZER B. GRIFFITH Section	on Township Range: AJA
Landform (hillslope, terrace, etc.): HEUSINE TERRALE Local reli	
Subregion (LRR or MLRA): LRR V Lat: 37.36	ef (concave, convex, none):
	7/2/ 50 0000
Are climatic / hydrologic conditions on the site typical for this time of year? Y	TWY Classification.
A 1 / 1	No No
Are Vegetation, Soil, or Hydrology naturally problema SUMMARY OF FINDINGS – Attach site map showing sam	(" Tready orpidit dity diswers in Kelliaks.)
	printy point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No No	Is the Sampled Area
Hydric Soil Present? Yes No	within a Wetland? Yes No
Wetland Hydrology-Present? Yes No	
	-
PHOTOS 100-0131 TO 100-0135	
HYDROLOGY	
Wetland Hydrology Indicators:	0
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
Surface Water (A1) True Aquatic Plants (E	Surface Soil Cracks (B6)
High Water Table (A2) Hydrogen Sulfide Odd	
	es on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced	
Sediment Deposits (B2) Recent Iron Reduction	n in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (C	7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Rem	narks) Stunted or Stressed Plants (D1)
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	Geomorphic Position (D2)
Water-Stained Leaves (B9)	Shallow Aquitard (D3)
Aquatic Fauna (B13)	Microtopographic Relief (D4)
Field Observations:	FAC-Neutral Test (D5)
Surface Water Present? Yes O No Depth (inches): N	'A
Water Table Present? Yes No Depth (inches): N	
Saturation Present? Yes No Depth (inches): 1	A Wetland Hydrology Present? Yes No X
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, prev	
Data (Stream gauge, monitoring well, aerial photos, prev	rious inspections), if available:
Remarks:	
WETLAND HYDROLOGY NOT OBS	20.12-
WETLAND HYDROLOGY NOT OBS	ERVED.
	•
	·
	,

Tree Stratum (Plot size: 36 ' R	Absolute		Dominance Test worksheet:
1. PINUS VIRGINIANA	36 	Species? Status	Number of Dominant Species
2. QUERLUS FALLATA	30	Y FACU	
3. QUERCUS RUBRA	5	N FALU	Total Number of Dominant
4			Species Across All Strata: (B)
5.			Percent of Dominant Species
6	- ,	·	That Are OBL, FACW, or FAC: 20 (A/B)
6. 7.			Prevalence Index worksheet:
			_
Sapling Stratum (Plot size: 15'R)	073	= Total Cover 37/15	OBL species x 1 = 1
1. PINUS VIRGINIANA	20	Y NL	
2. QUERCUS ALBA	10	Y FALU	FACW species $x = 2 = 1$
	- 5	N FACU	
4. LIQUIDAMBAR STYRALIFLUA		N FAC	
5. ALER RUBRUM			UPL species x 5 = _1
6. FACTUS CRANDIPOLIA		N FAC N FAC	Column Totals: 0 (A) 5 (B)
		N FACU	Prevalence Index = B/A =
7			
Shrub Stratum (Plot size: 15 / R)	040	= Total Cover 20/8	1 - Rapid Test for Hydrophytic Vegetation
1. VACCINIUM ANGUSTIFOLIUM	20	<u> </u>	Trapia rest for rivarophytic vegetation
2. TONIPERUS VIRGINIANA	15		-\
3. VALINIUM CARYAMBOSUM			·
		M FACH	 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
4			Problematic Hydrophytic Vegetation¹ (Explain)
5	_		- (Explain)
6			Indicators of hydric coll and water discusses
7		Щ	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic:
Herb Stratum (Plot size: 5/R)	0 40	= Total Cover 248	Definitions of Five Vegetation Strata:
1. <i>NA</i>			Tree – Woody plants, excluding woody vines,
2			approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
3			-
4			Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
5			than 3 in. (7.6 cm) DBH.
6			Should Manda day
7			Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8			
9			Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
10			plants, except woody vines, less than approximately
11			3 ft (1 m) in height.
12			Woody vine - All woody vines, regardless of height.
2-10	0 .	= Total Cover	The state of the s
Woody Vine Stratum (Plot size: 30'R)			
1. SMILAY ROTUNDIFOLIA	<u> 10</u>	Y FAC	_
2. <u>CAMPSIS</u> RADICANS		Y FAC	-
3.			-
4			Hydrophytic Vegetation
5	<u> </u>		Present? Yes No
•	025	= Total Cover 12.5	
Remarks: (Include photo numbers here or on a separate s			
HYDROPHITIC VEGETATION NO		REGENT	
MANORITO VERCINIUS IN	. , , ,	1000/V I	

-	_	

Sampling Point: WCUK014_U

Depth	Matrix		Redo	ox Feature	3		n the absence of indica	itors.)
(inches)	Color (moist)	%	Color (moist)	_ %	_Type ¹ _	_Loc ² _	Texture	Remarks
0-10	7.57R4/2	108	NA	_ <u>~A</u>	NA		loany sand	
2-18	104R 5/4!	100	NA	NA	NA	NA	lumy sand	
							,	
	·	• • .						
					× .			
					-			
						-	· - 	
	· — · · · · · · · · · · · · · · · · · ·							
	-		· , ,					
¹ Type: C=C	Concentration, D=Dep	letion, RM=R	educed Matrix, M	S=Masked	Sand Gra	ains.	² Location: PL=Pore Lin	ing, M=Matrix.
_	Indicators:	•		. :			Indicators for F	Problematic Hydric Soils ³ :
Histoso			Dark Surface				2 cm Muck	(A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be	elow Surfac	ce (S8) (N	İLRA 147,		ie Redox (A16)
	listic (A3) en Sulfide (A4)		Thin Dark Su Loamy Gleye	urface (S9)	(MLRA 1	47, 148)	(MLRA 1	
	d Layers (A5)		Depleted Ma		-2)		Pledmont F	loodplain Soils (F19)
	uck (A10) (LRR N)		Redox Dark		6)		Red Parent	Material (TF2)
	ed Below Dark Surface	e (A11)	Depleted Da					w Dark Surface (TF12)
	ark Surface (A12)		Redox Depre					ain in Remarks)
	Mucky Mineral (S1) (L A 147, 148)	.RR N,	Iron-Mangan		s (F12) (I	_RR N,	•	
	Gleyed Matrix (S4)		MLRA 13 Umbric Surfa	,	MI DA 12	6 122)	31	
	Redox (S5)		Piedmont Flo					hydrophytic vegetation and drology must be present,
	d Matrix (S6)		-		()	(irbed or problematic.
Restrictive	Layer (if observed):	1						
Type:	NA.							
Depth (in	nches): NA	•					Hydric Soil Present?	Yes <u> </u>
Remarks:							<u> </u>	
HYDR	IL SOILS	NOT	PRESI	ENT				
. 170			1120					
						,		
		,						
				. . .				
* **								
							* .	
	•, "	_ 0 0						
		,					,	
		:						
¥								• •
							· · · · · · · · · · · · · · · · · · ·	
					· · · · ·			
					. *			
		×				·		
						· · · · · · · · · · · · · · · · · · ·		



Upland data point wcuk014_u facing North



Upland data point wcuk014_u facing South



Upland data point wcuk014_u soil sample

Project/Site:	ERP	City/0	County: CUMBERLA	∫√0 Sam	pling Date: 08/26/201
Applicant/Owner:	OMINION				mpling Point: WCUKON
Investigator(s):	SWETTER	Secti	on, Township, Range:	NA	
Landform (hillslope, terra	ce, etc.): HILL Stop	Local re	lief (concave, convex, no	ne) NONE	Slope (%): 35
Subregion (LRR or MLRA	W: LRRP L	at: 37, 363931193	Long: 78	.390365742	Datum: NAD 1981
	EWALLA AND MON				
	conditions on the site typical				
	oil, or Hydrology _[t? Yes ② No ③
	·	naturally problem		·	
	DINGS – Attach site			explain any answers in F	,
Hydrophytic Vegetation Hydric Soil Present? Wetland Hydrology Pres	Present? Yes Yes	No O	Is the Sampled Area within a Wetland?	Yes	lo
	eugs attorology	From Flu	DO WATERS O	F DRT CRE	A SEEP WETCHUS
		•			
PHOTOS 100-0	0169 70 0171	· . · ·			
HYDROLOGY				· · · · · · · · · · · · · · · · · · ·	
Wetland Hydrology In	dicators:			Coondan, Indicators (
	mum of one is required; che	eck all that apply)		Surface Soil Crack	minimum of two required)
Surface Water (A1)	_	True Aquatic Plants	(B14)		d Concave Surface (B8)
High Water Table (A2)	Hydrogen Sulfide Oc		Drainage Patterns	
Saturation (A3)			res on Living Roots (C3)	Moss Trim Lines (E	
Water Marks (B1)		Presence of Reduce	d Iron (C4)	Dry-Season Water	- 1
Sediment Deposits	(B2)	Recent Iron Reduction	on in Tilled Soils (C6)	Crayfish Burrows (C8)
Drift Deposits (B3)		Thin Muck Surface (on Aerial Imagery (C9)
Algal Mat or Crust (Iron Deposits (B5)	L_	Other (Explain in Re	marks)	Stunted or Stresse	
	on Aerial Imagery (B7)	* * * * * * * * * * * * * * * * * * * *		Geomorphic Position	` '
Water-Stained Leav				Shallow Aquitard (I Microtopographic F	-
Aquatic Fauna (B13	• •			FAC-Neutral Test (` '
Field Observations:					50)
Surface Water Present?	Yes 🔘 No 🙋	Depth (inches):			
Water Table Present?		_ Depth (inches):			
Saturation Present? (includes capillary fringe	Yes <u> </u>	Depth (inches):	Wetland H	ydrology Present? Y	es No
Describe Recorded Data	a (stream gauge, monitoring	well, aerial photos, pre	vious inspections), if ava	ilable:	
N.	\				
Remarks: HYOROU	out based off	sciondaly	INDICATURS	ONLY,	
ī.	•				,
,		• '			
	en e				
					9
				A steering 1	
i i					

75 (-	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 (R)	% Cover Species? Status	
1. <u>NA</u>		Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.		4
3 ′		Total Number of Dominant
		Species Across All Strata: (B)
4.		Percent of Dominant Species 100
5		That Are OBL, FACW, or FAC: (A/B)
6		
7		Prevalence Index worksheet:
	0 = Total Cover	Total % Cover of: Multiply by:
Sapling Stratum (Plot size: 15 12)		OBL species x 1 =
1. NA		FACW species x 2 = _1
2.		FAC species x 3 =1
		FACU species x 4 = 1
3		
4		UPL species x 5 = _1
5		Column Totals: 0 (A) 5 (B)
6		
7.		Prevalence Index = B/A =
	0 = Total Cover	Hydrophytic Vegetation Indicators:
Shrub Stratum (Plot size: 15 'R	= Total Covel	1 - Rapid Test for Hydrophytic Vegetation
1. <u>VA</u>		2 - Dominance Test is >50%
		3 - Prevalence Index is ≤3.0 ¹
2		-
3	- 	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4		·
5		Problematic Hydrophytic Vegetation ¹ (Explain)
6		
7		¹ Indicators of hydric soil and wetland hydrology must
	0 = Total Cover	be present, unless disturbed or problematic.
Herb Stratum (Plot size: 5/2	= Total Cover	Definitions of Five Vegetation Strata:
ALOUE PAR ALOUE AL	60 Y FALW	•
1. VERNONTA NOVEBORACENSES		Tree – Woody plants, excluding woody vines,
2. JOURDAGO RUGGA.	40 7 FAL.	approximately 20 ft (6 m) or more in height and 3 in.
2. JOURDA GO RUBGA 3. JUNNY EFFUSIS	40 7 FA(,	
2. JOURDAGO RUGGA.	40 7 FAL.	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,
2. JOURDAGO RUBGA 3. JUNNY EFFUSUS 4. DICHANTHELIUM SCORARIUM.	40 7 FA(,	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
2. JOURDAGO RUBGA 3. JUNNY EFFUSUS 4. DICHANTHELIUM SCOMARIUM. 5.	40 7 FA(,	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,
2. JOURDAGO RUBGA 3. JUNNY EFFUSUS 4. DICHANTHELIUM SCOMPAIUM. 5. 6.	40 7 FA(,	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
2. JOURDAGO RUGGIA 3. JUNNY EFFUSUS 4. DICHANTHELIUM SCONARIUM 5. 6. 7.	90 Y FAL 10 N FACW 30 Y FAC	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.
2. JOURDAGO RUBGA 3. JUNNY EFFUSUS 4. DICHANTHELIUM SCOMAZIUM 5. 6. 7.	90 Y FAL 10 N FACW 30 Y FAC	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.
2. JOURDAGO RUBGA 3. JUNNY EFFUSUS 4. DICHANTHELIUM SCONARIUM 5. 6. 7.	90 Y FAL 10 N FACW 30 Y FAC	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
2. JOURDAGO RUBGA 3. JUNNY EFFUSUS 4. DICHANTHELIUM SCOMAZIUM 5. 6. 7.	90 Y FAL 10 N FACW 30 Y FAC	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
2. JOURDAGO RUBIGA 3. JUNNY EFFUSUS 4. DICHANTHELIUM SCOMARIUM. 5. 6. 7. 8. 9.	90 Y FAL 10 N FACW 30 Y FAC	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
2. JOURDA GO RUGGIA 3. JUNN'S EFFUSUS 4. DICHANTHELIUM SCOMARIUM 5. 6. 7. 8. 9. 10.	90 Y FAL 10 N FACW 30 Y FAC	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.
2. JOURN LO RUBIG 3. JUNNY EFFUSUS 4. DICHARUTHELIUM SCOMPAIUM 5. 6. 7. 8. 9. 10. 11.	90 7 FAL, 10 N FACW 30 Y FAC	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. JOURN LO RUBIG 3. JUNNY EFFUSUS 4. DICHANITHELIUM SCOMARIUM. 5. 6. 7. 8. 9. 10. 11.	90 7 FAL, 10 N FACW 30 Y FAW	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. JOURDA GO RUGGIA 3. JUNNY EFFUSUS 4. DICHANITELIUM SCOMARIUM 5. 6. 7. 8. 9. 10. 11. 12. Woody Vine Stratum (Plot size: 30 1 R)	90 7 FAL, 10 N FACW 30 Y FAC	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. JOURDA GO RUBSIA 3. JUNNY EFFUSUS 4. DICHARUTHELIUM SCOMARIUM. 5. 6. 7. 8. 9. 10. 11. 12. Woody Vine Stratum (Plot size: 50°R) 1. MA	90 7 FAL, 10 N FACW 30 Y FAW	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. JOURDA GO RUGGIA 3. JUNNY EFFUSUS 4. DICHARITECIUM SCOMARIUM 5. 6. 7. 8. 9. 10. 11. 12. Woody Vine Stratum (Plot size: 50 R) 1. MM 2.	90 7 FAL, 10 N FACW 30 Y FAW	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. JOURDA GO RUBSIA 3. JUNNY EFFUSUS 4. DICHARUTHELIUM SCOMARIUM. 5. 6. 7. 8. 9. 10. 11. 12. Woody Vine Stratum (Plot size: 50°R) 1. MA	90 7 FAL, 10 N FACW 30 Y FAW	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. JOURDA GO RUGGIA 3. JUNNY EFFUSUS 4. DICHARITECIUM SCOMARIUM 5. 6. 7. 8. 9. 10. 11. 12. Woody Vine Stratum (Plot size: 50 R) 1. MM 2.	90 7 FAL, 10 N FACW 30 Y FAW	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
2. JUNNY EFFUSUS 4. DICHANTHELIUM SCOMADIUM 5	90 7 FAL, 10 N FACW 30 Y FAW	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
2. JOURDA GO RUGGIA 3. JUNNY EFFUSUS 4. DICHARITECIUM SCOMARIUM 5. 6. 7. 8. 9. 10. 11. 12. Woody Vine Stratum (Plot size: 50 R) 1. MM 2.	90 7 FAL, 10 N FACW 30 Y FAU	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
2. JOURNA GO RUGGA 3. JUNNY EFFUSUS 4. DICHANTHELIUM SCOMARIUM 5. 6. 7. 8. 9. 10. 11. 12. Woody Vine Stratum (Plot size: 30 1 R) 1. MA 2. 3. 4. 5.	O into = Total Cover	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
2. JOURNA 60 RUNGA 3. JUNNY EFFUSUS 4. DICHANTHELIUM SCOMARIUM 5	90 FAL, 10 N FACW 30 Y FAL 10 TACW 10	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
2. JOURNA 60 RUNGA 3. JUNNY EFFUSUS 4. DICHARITELIUM SCOMARIUM 5	O T FAL, FACW 30 Y FAW O IN = Total Cover SPAR O = Total Cover Sheet.) AREA RECENTLY	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
2. JOURNA GO RUGGIA 3. JUNN'S EFFUSUS 4. DICHARITELIUM SCOMARIUM 5. 6. 7. 8. 9. 10. 11. 12. Woody Vine Stratum (Plot size: 30 R) 1. MA 2. 3. 4. 5.	O T FAL, FACW 30 Y FAW O IN = Total Cover SPAR O = Total Cover Sheet.) AREA RECENTLY	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
2. JUNNY EFFUSIS 4. DICHANTHELLUM SCOMARIUM 5	O T FAL, FACW 30 Y FAW O IN = Total Cover SPAR O = Total Cover Sheet.) AREA RECENTLY	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
2. JUNN'S EFFUSUS 4. DICHANTHELIUM SCOMARIUM 5	O T FAL, FACW 30 Y FAW O IN = Total Cover SPAR O = Total Cover Sheet.) AREA RECENTLY	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

Sampling Point: WOUR O ISE W

Profile Des	cription: (Descri	be to the de	pth needed to docu	ment the	indicator	or confirm	the absence	of indicators.)	
Depth	Matrix			ox Feature		. 2	÷ .		
(inches)	Color (moist)	- % -	Color (moist)	- <u>%</u> Z	Type ¹	Loc ²	Texture	Remark	KS
	16 8R 5/2				•		SAWDY		
2-18	2.54 6/2	90	75 ER5/8	10		<u> ア(・</u>	SAWOY	COAM	-
				_			<u> </u>		
	-								
						x 2	,	*	
	e *						·		
			· ·						
					-				
							· .	-	
* .									
1Typo: C=C	`anachtration D=F	Osplotion DA	. ————————————————————————————————————	C-Maska	d Sand Cr		21 continue DI	 =Pore Lining, M=Matr	
	Indicators:	pepielion, Riv	i-Reduced Matrix, M	- Waske	u Sanu Gr	airis.		Pore Lining, M=Matr ators for Problematic	
Histoso			Dark Surface	e (S7)				cm Muck (A10) (MLR	-
	pipedon (A2)		Polyvalue B		ace (S8) (N	ILRA 147,		Coast Prairie Redox (A	
	listic (A3)		Thin Dark S			147, 148)		(MLRA 147, 148)	
	en Sulfide (A4) d Layers (A5)		Loamy Gley Depleted Ma		(F2)		F	Piedmont Floodplain So (MLRA 136, 147)	oils (F19)
·	uck (A10) (LRR N)	Redox Dark		F6)		П	Red Parent Material (Tr	F2)
	ed Below Dark Sur		Depleted Da	,	,			ery Shallow Dark Surf	
	ark Surface (A12)		Redox Depr					Other (Explain in Rema	rks)
	Mucky Mineral (S1 A 147, 148)) (LRR N,	Iron-Mangar		ses (F12) (LRR N,			
	Gleyed Matrix (S4)	Umbric Surf		MLRA 13	6, 122)	3Inc	licators of hydrophytic	vegetation and
	Redox (S5)		Piedmont Fl						
1 000				ooup.a	00115 (1 13)	(IVILIKA 14	(8) V	vetland hydrology must	t be present,
	d Matrix (S6)			<u>/*</u>	50115 (1-19)	(IVILKA 14		inless disturbed or prol	
Restrictive	Layer (if observe	ed):		<i>(*</i>	50115 (1-19)	(MLRA 14			
Restrictive Type:	Layer (if observe	ed):		C.	50118 (1-19)	(MLRA 14	U	inless disturbed or prol	blematic.
Restrictive Type: Depth (ir	Layer (if observe	ed):		C.	50116 (F 19)	(WLKA 14	U		blematic.
Restrictive Type:	Layer (if observe	ed):		<i>(</i> :	ouis (FT9)	(WLKA 14	U	inless disturbed or prol	blematic.
Restrictive Type: Depth (ir	Layer (if observe	ed):		<i>(</i> *	ouis (F19)	(MERA 14	U	inless disturbed or prol	blematic.
Restrictive Type: Depth (ir	Layer (if observe	ed):			ouis (F19)	(MERA 14	U	inless disturbed or prol	blematic.
Restrictive Type: Depth (ir	Layer (if observe	ed):			ouis (F19)	(MERA 14	U	inless disturbed or prol	blematic.
Restrictive Type: Depth (ir	Layer (if observe	ed):			ouis (F19)	(MERA 14	U	inless disturbed or prol	blematic.
Restrictive Type: Depth (ir	Layer (if observe	ed):			ouis (FT9)	(MERA 14	U	inless disturbed or prol	blematic.
Restrictive Type: Depth (ir	Layer (if observe	ed):			ouis (F19)	(MERA 14	U	inless disturbed or prol	blematic.
Restrictive Type: Depth (ir	Layer (if observe	ed):			ouis (F19)	(MERA 14	U	inless disturbed or prol	blematic.
Restrictive Type: Depth (ir	Layer (if observe	ed):			ouis (FT9)	(MERA 14	U	inless disturbed or prol	blematic.
Restrictive Type: Depth (ir	Layer (if observe	ed):			ouis (FTa)	(MERA 14	U	inless disturbed or prol	blematic.
Restrictive Type: Depth (ir	Layer (if observe	ed):			ouis (F19)	(MLRA 14	U	inless disturbed or prol	blematic.
Restrictive Type: Depth (ir	Layer (if observe	ed):			ouis (i 19)	(MLRA 14	U	inless disturbed or prol	blematic.
Restrictive Type: Depth (ir	Layer (if observe	ed):			ouis (FTa)	(MLRA 14	U	inless disturbed or prol	blematic.
Restrictive Type: Depth (ir	Layer (if observe	ed):			ouis (F19)	(MLRA 14	U	inless disturbed or prol	blematic.
Restrictive Type: Depth (ir	Layer (if observe	ed):			ouis (i 19)	(MLRA 14	U	inless disturbed or prol	blematic.
Restrictive Type: Depth (ir	Layer (if observe	ed):			ouis (Fra)	(MLRA 14	U	inless disturbed or prol	blematic.
Restrictive Type: Depth (ir	Layer (if observe	ed):			ouis (F19)	(MLRA 14	U	inless disturbed or prol	blematic.
Restrictive Type: Depth (ir	Layer (if observe	ed):			ouis (F19)	(MLRA 14	U	inless disturbed or prol	blematic.
Restrictive Type: Depth (ir	Layer (if observe	ed):			ouis (F19)	(MLRA 14	U	inless disturbed or prol	blematic.
Restrictive Type: Depth (ir	Layer (if observe	ed):			ouis (i 19)	(MLRA 14	U	inless disturbed or prol	blematic.



Wetland data point wcuk015e_w facing North



Wetland data point wcuk015e_w facing South



Wetland data point wcuk015e_w soil sample

Project/Site: SERP City/County:	UMBER LAND Sampling Date: 08/26/2015
Applicant/Owner: Pominology	State: I/A Sampling Point: 100 and
Investigator(s): J. Sweitzer, B. CRIFFITH Section, Towns	ship. Range: NA
Landform (hillslope, terrace, etc.): HILLSLOPE Local relief (conca	ive convex none) WONIC Stone (%), 7-0
Subregion (LRR or MLRA): <u>LRR P</u> Lat: 37.363943940	Long: 78,390235671 Datum: NAD 1983
Soil Map Unit Name: CHEWALLA AND MONALAN SOILS, 0-2% SLEDGY	PREDIENTLY FLOORISH classification: F.F. M.L.A.
Are climatic / hydrologic conditions on the site typical for this time of year? Yes	No. O (If no explain in Demarks)
Are Vegetation, Soil, or Hydrology:significantly disturbed?	
Are Vegetation, Soil, or Hydrology naturally problematic?	
	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling p	point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No No	
I HV/dric Soil Precent/ Voc. 1987/ No. 1 /	ampled Area a Wetland? Yes O No
Wetland Hydrology Present? Yes O No	TOS NO W
Remarks:	
PHOTOS 100-0172 TO 100-6176	
POINT LOLATED IN MAPPED NUT WETLAND B	UT FOUND TO BE UPLAND
bonned from the heart of a considerable	0, 0, 0, 0,
HYDROLOGY	
Wetland Hydrology Indicators:	Coopeday Indicator (winite and file of the party of the p
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Saturation (A3) Oxidized Rhizospheres on Livi	
Water Marks (B1) Presence of Reduced Iron (C4	
Sediment Deposits (B2) Recent Iron Reduction in Tilled	Printerior Control of the Control of
Drift Deposits (B3) Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Iron Deposits (B5) Other (Explain in Remarks)	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Imagery (B7)	Geomorphic Position (D2) Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? . Yes No Depth (inches):	
Water Table Present? Yes O No Depth (inches):	_
Saturation Present? Yes No Depth (inches):	_ Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous insp	pections), if available:
NA	
Remarks;	
NO INDICATORS OF WETLAND HY	DROLUGY OBSERVED
	<u> </u>
	·
·	
	1.

HYDROPHYTIL VECETATION N	OT PR	ESENT	
PLOT TAKEN IN MAINTAI			
Remarks: (Include photo numbers here or on a separate		<i>a</i> .	
		= Total Cover	
· 5			Present? Yes No No
4			Hydrophytic Vegetation
3.			Itindanahada
2			
1			
Woody Vine Stratum (Piot size: 30' R)	0/00	= Total Cover 50	7.5
12.	0 (2.5		Woody vine – All woody vines, regardless of height.
11			3 ft (1 m) in height.
10			plants, except woody vines, less than approximately
9			Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
8			
7			Shrub Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
6.			
5. ANOROPOGON VIRI-INICUS		N FAW	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
4. SOLIDACO CIGANTEA	10	N FACE	Sapling – Woody plants, excluding woody vines,
3. DICHANTHELIUM SCOPARIO	M20	Y FAL	(7.6 cm) or larger in diameter at breast height (DBH).
2. EUPATOKIUM HYSSOPOFOLIUM	<u> </u>		approximately 20 ft (6 m) or more in height and 3 in.
1. ERILERON ANNUS	40		И Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size: 5'R)		= Total Cover	Definitions of Five Vegetation Strata:
7	_ 		be present, unless disturbed or problematic.
6.			Indicators of hydric soil and wetland hydrology must
5			-1
4			Problematic Hydrophytic Vegetation¹ (Explain)
3		1 1	4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
2			3 - Prevalence Index is ≤3.0 ¹
1			2 - Dominance Test is >50%
Shrub Stratum (Plot size: / 5 / 6 ,)			1 - Rapid Test for Hydrophytic Vegetation
10	0	= Total Cover	Hydrophytic Vegetation Indicators:
6			Prevalence Index = B/A =
5	-		Column Totals: 0 (A) 5 (B)
3			UPL species x 5 =
2	-		FACU species x4 = 1
	. .		FACW species
1. NA			FACW species x2 = 1
7	0 :	= Total Cover	OBL species x 1 =
7.	 		Total % Cover of: Multiply by:
6.			Prevalence Index worksheet:
5			Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)
3		1,1	Percent of Dominant Species /2 /2
3.			Total Number of Dominant Species Across All Strata: (B)
2			
Tree Stratum (Plot size: 30/R)	% Cover	Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC:(A)
1 -	Absolute	Dominant Indicate	

Sampling Point WCUKO15_W

Danth	oribron: (pesonine	to the dep	Mi needed to docu	ment me nic	licator o	r confirm	the absence of i	nuicators.)		
Depth	Matrix	• •	Redo	x Features	_ 1			· .		
(inches) 0-2	Color (moist) 7.5 YR 5/4	<u>%</u>	Color (moist)	<u>%</u>	Type ¹	NA	Texture	Rer	narks	
		100		- -	NA -		Sandy lon	- lan		_
2-18	754R611	50	104R-2/1		<u>C</u>	SM	SANDY LOAK	FIEIRIN	MASSES.	_
	7.54R 5/6	48				· .			<u>. 3 </u>	<u>.</u>
<u>'</u>	· 			·						
		<u> </u>						 	· · · · · · · · · · · · · · · · · · ·	
	•									
		· .								
	-		•			*				
									•	
1 _{Type} C=C	Concentration, D=Dep	Jotion DM	=Daduaad Matrix M	- -			2:	fml M_A	4 4 31. 2	—
Hydric Soil	oncentration, υ≕υeρ Indicators:	ielion, rdivi-	=Reduced Matrix, M	S=IVIasked S	and Grai	ns.	² Location: PL=Po	ore Lining, M=IV s for Problema	_{Matrix.} atic Hydric Soils³:	
Histoso	· · · · · · · · · · · · · · · · · · ·		Dark Surface	e (S7)		_		Muck (A10) (M	T +-	,
Histic E	pipedon (A2)		Polyvalue Be	elow Surface				t Prairie Redox		
process.	listic (A3)		Thin Dark St	urface (S9) (N	MLRA 14		(M.	LRA 147, 148)		
	en Sulfide (A4) d Layers (A5)			ed Matrix (F2	.)			nont Floodplain		
	uck (A10) (LRR N)	_	Depleted Ma		· I			LRA 136, 147) Parent Material		
Deplete	d Below Dark Surface	e (A11)	Depleted Da	rk Surface (F				Shallow Dark S		
ı <u>— </u>	ark Surface (A12)		Redox Depre				Other	(Explain in Re	marks)	
	Mucky Mineral (S1) (L A 147, 148)	_RR N,	X Iron-Mangan		(F12) (L1	RR N,	•	•		
	A 147, 148) Gleyed Matrix (S4)		MLRA 13 Umbric Surfa	96) ace (F13) (MI	I RΔ 136	199\	³ Indicate	are of hydronhy	tic vegetation and	
	Redox (S5)			oodpiain Soils					nust be present,	
Strippe	d Matrix (S6)							s disturbed or p		
	Layer (If observed):									
Type:	NA oches): NA						<u> </u>		@	
Depth (in	ches):						Hydric Soil Pre	sent? Yes_	<u> </u>	
Remarks:	•				٠.					•
1445	ORIC SOILS	OBSE	ERVED BY	INDIC	Ank	F13	2 - IRON.	- A ANGAN	650	
1	-	•	•				_ 110010			
	•			•			_ ticolo Mass	Es		
							MASS	E)		
						• • •	_ NASS	E)		
						• • •	Mass	(E)		
							Mass	E)		
						, (,	Mass	(E)		
					••		Mass	66)		
							Mass	E)		
							Mass	E)		
							Mass	(E)		
							Mass	E)		
							Mass	E)		
							Mass	E)		
							Mass	E)		
							Mass	E)		
							Mass	E)		
							Mass	E)		



Upland data point wcuk015_u facing North



Upland data point wcuk015_u facing South



Upland data point wcuk015_u soil sample

Project/Site: SERP City/County: CUMBERLAN	9) Sampling Date: 08/26/20
Against Ship	tate: VA Sampling Point: WLUKOIG.
Investigator(s):	NOME
Landform (hillslope, terrace, etc.): CON にはいい Jun is Local relief (concave, convex, none)	
Subregion (LRR or MLRA): <u>LRR P</u> Lat: 37, 3632 616 80 Long: 78. 3	385192289 Datum: NAO 1983
Soil Map Unit Name: PENONA - CALBONTON COMPLES , 7 TO 15% SOPE)	NWI classification: NA
	14441 olaboliloalion.
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If n	
	cumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, expl	ain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling point locations	, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Is the Sampled Area	
Hydric Soil Present? Yes No Within a Wetland?	YesNo
Wetland Hydrology Present? Yes No	
Remarks: POINT ESTABLESHED IN NARROW EDHEMERAL WASH	THAT PORMED AT
THEBAJE OF CONVERGENCE SUPEL	
PHOTOS, 100-0:77 TO 0179, 0180 (FE/AN MASSES)	
HYDROLOGY	
and the second s	condary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) High Water Table (A2) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1)	Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10)
Saturation (A3) Oxidized Rhizospheres on Living Roots (C3)	Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced Iron (C4)	Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6)	Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Remarks)	Stunted or Stressed Plants (D1)
☐ Iron Deposits (B5) ☐ Inundation Visible on Aerial Imagery (B7) ☐	Geomorphic Position (D2)
Water-Stained Leaves (B9)	Shallow Aquitard (D3) Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes O No O Depth (inches): MA	
Water Table Present? Yes O No Depth (inches): NA	
	rology Present? Yes V No No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if availab	le:
NA	
Remarks: SEAJONAL HYDROLOGY - OBSERVED WRALH LEWES, TREE	25011 NT SOFFAIR WATER
	Rossy At Jekinon
STATUTED LEAVES, OBVIOUS DRAINAGE PATTERNS	
	· · ·

-la	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 517	% Cover Species? Status	Number of Dominant Species 7
1. LIQUIDA MBAR STYRALLFLOA	60 Y FAL	That Are OBL, FACW, or FAC: (A)
2. ALER RUSRUM	30 Y FAL	
3. BETULA NELKA	20 N FAW	Total Number of Dominant
		Species Across All Strata: (B)
4.		Percent of Dominant Species /DO
5		That Are OBL, FACW, or FAC: (A/B)
6		
7.		Prevalence Index worksheet:
~- (-	6 //D = Total Cover.55/27	Total % Cover of: . Multiply by:
Sapling Stratum (Plot size: 5'R)		OBL species x 1 =
1. CARPINUS CAROLINIANA	20 7 FAC	FACW species x 2 = _1
2. LEQUED AMBAR STYRALIFULA	20 Y FAL	FAC species x 3 = _1
ACRE PLACEUM		I
3. ALE RUBRUM	10 Y FAL	FACU species $x = 4 = 1$
4.		UPL species x 5 = 1
5		Column Totals: 0 (A) 5 (B)
6		
7.		Prevalence Index = B/A =
	0 50 = Total Cover 25 10	Hydrophytic Vegetation Indicators:
Shrub Stratum (Plot size: 5 /7)	= Total Cover	1 - Rapid Test for Hydrophytic Vegetation
1. FRASAVI) PENNIYLVANILA	10 7 FACW	2 - Dominance Test is >50%
2. (ARPINUS CAROLINIANA	5 7 FAL	3 - Prevalence Index is ≤3.0¹
	- 3 // PAC	
3.		4 - Morphological Adaptations ¹ (Provide supporting
4		data in Remarks or on a separate sheet)
5.		Problematic Hydrophytic Vegetation ¹ (Explain)
6.		,
		¹ Indicators of hydric soil and wetland hydrology must
7	A 18	be present, unless disturbed or problematic.
Herb Stratum (Plot size: 5/7	Total Cover 8/3	Definitions of Five Vegetation Strata:
<u>Herb Stratum</u> (Plot size)		
1	- 	Tree – Woody plants, excluding woody vines,
2		approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
3		(1.0 sin) of larger in diameter at broadt height (BBH).
4		Sapling – Woody plants, excluding woody vines,
54 à		approximately 20 ft (6 m) or more in height and less
		than 3 in. (7.6 cm) DBH.
/ O	- 	Shrub – Woody plants, excluding woody vines,
		approximately 3 to 20 ft (1 to 6 m) in height.
8.		Hards All bards are seen for a second
9		Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
10	· · · · · · · · · · · · · · · · · · ·	plants, except woody vines, less than approximately
11.		3 ft (1 m) in height.
12.		Washing Allers V.
	0 - Total Caver	Woody vine – All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 51R)	= Total Cover	
1. AIA		
	- — 	
2		
3		
4		Hydrophytic
5.		Vegetation Present? Yes No
	0 = Total Cover	700
Remarks: (Include photo numbers here or on a separate	sneet.)	Pondlid nave and the
NARROW PLOT DUE TO SILE		POORLY DEVELOPED HERBILERY
LAYER LIKE OVE TO SCOREWIN	OFFICENTIAN DALLE	DOMENANCE TRUST
The Designation	AFREID! TOLK	Variable of host
		•
		I

Sampling Point: WWK016F_W

			pth needed to docum	icht the i	naicator	Or Commi	n the absence	or indicate	ors.)	,	
Depth	Matrix	0/	Redox	x Features	3						
(inches) 3-3	Color (moist)	<u>%</u> 99	7.5 4R 4/6	-%	Type ¹	Loc ²	Texture	-	Re	marks	· · · · · ·
3-14	10 4R 5/Z	50	טוף או פור	2		M	SANDY				
3-14			20 110 211			<u> </u>	SANDY)		
3-17	10 YR 4/4	48	10 4R 2/1			SM	_ SANDY	LOAM	_w/	FE-MN	MASSES
					••						
							٠,	-			
											-
¹ Type: C=C	oncentration, D=Dep	letion RM	=Reduced Matrix, MS	=Masked	Sand Gr	aine	² Location: PL	-Doro Linin	~ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Motrix	
Hydric Soil		100011, 1 (14)	Troduced Matrix, Mc	Wasked	Oarid Oi	airis.	Indica	tors for Pr	oblem	viatrix. atic Hydric	Soils ³ :
Histosol	(A1).		Dark Surface	(S7)				cm Muck (A			
	pipedon (A2)		Polyvalue Bel	ow Surfac	ce (S8) (N	/ILRA 147,	148) 🔲 C	oast Prairie			
	istic (A3) en Sulfide (A4)	•	Thin Dark Sur Loamy Gleyed			147, 148)		(MLRA 14			
	d Layers (A5)		Depleted Mati	,	F2)		, Pi	edmont Flo MLRA 13)		n Soils (F19)
2 cm Mt	uck (A10) (LRR N)		Redox Dark S		6)		□R	ed Parent N			
	d Below Dark Surface	e (A11)	Depleted Dark				L V	ery Shallow	Dark S	Surface (TF	12)
	ark Surface (A12) ⁄lucky Mineral (S1) (L	DD N	Redox Depres			LDDN		ther (Explai	n in Re	emarks)	
	A 147, 148)	-IXIX IV,	MLRA 136		S (F 12) (LKK N,					
Sandy C	Sleyed Matrix (S4)		Umbric Surfac	ce (F13) (I	MLRA 13	6, 122)	³ Indi	cators of hy	/drophy	ytic vegetati	on and
	Redox (S5)		Piedmont Floo	odplain So	oils (F19)	(MLRA 14	8) w	etland hydro	ology n	nust be pres	sent,
Stripped	l Matrix (S6)										
Restrictive										problematic	
	Layer (if observed):									problematic	
Restrictive Type: Depth (in	Layer (if observed):						ur	nless disturb	oed or		
Type:	Layer (if observed):							nless disturb	oed or		·
Type: Depth (in	Layer (if observed):			· · · · ·			ur	nless disturb	oed or		
Type: Depth (in	Layer (if observed):				· ·		ur	nless disturb	oed or		
Type: Depth (in	Layer (if observed):						ur	nless disturb	oed or		
Type: Depth (in	Layer (if observed):				· ·		ur	nless disturb	oed or		
Type: Depth (in	Layer (if observed):						ur	nless disturb	oed or		
Type: Depth (in	Layer (if observed):						ur	nless disturb	oed or		
Type: Depth (in	Layer (if observed):						ur	nless disturb	oed or		
Type: Depth (in	Layer (if observed):						ur	nless disturb	oed or		
Type: Depth (in	Layer (if observed):						ur	nless disturb	oed or		
Type: Depth (in	Layer (if observed):						ur	nless disturb	oed or		
Type: Depth (in	Layer (if observed):						ur	nless disturb	oed or		
Type: Depth (in	Layer (if observed):						ur	nless disturb	oed or		
Type: Depth (in	Layer (if observed):						ur	nless disturb	oed or		
Type: Depth (in	Layer (if observed):						ur	nless disturb	oed or		
Type: Depth (in	Layer (if observed):						ur	nless disturb	oed or		
Type: Depth (in	Layer (if observed):						ur	nless disturb	oed or		
Type: Depth (in	Layer (if observed):						ur	nless disturb	oed or		
Type: Depth (in	Layer (if observed):						ur	nless disturb	oed or		
Type: Depth (in	Layer (if observed):						ur	nless disturb	oed or		



Wetland data point wcuk016f_w facing North



Wetland data point wcuk016f_w facing South



Wetland data point wcuk016f_w soil sample

Project/Site:	SECP	City	County: Combet	i.ANn sa	O9/Z6/Z© ampling Date: \textstore
Applicant/Owner: _	DOWIT NIOH			State: VA	Sampling Point: WUK016
Investigator(s):	5. SWELTLER	Sec	ction, Township, Range:	NA	
Landform (hillslope	e, terrace, etc.): HTU		elief (concave, convex, r	none): NA	Slope (%): 0-5
Subregion (LRR or		Lat: 37.31,3345	536 Long:	78. 38503703	Datum: NA0198
Soil Map Unit Nam	ne: PINSKA - CAR			NWI classification	414
		e typical for this time of year?	Yes No	(If no, explain in Rem	
Are Vegetation	Soil, or Hydr			nal Circumstances" pres	
Are Vegetation	Soil , or Hydr			l, explain any answers i	
SUMMARY O	F FINDINGS – Attac	h site map showing sa			mportant features, etc.
Hydrophytic Vege		es No V	Is the Sampled Area	a	
Hydric Soil Prese		es No No	within a Wetland?	Yes	No Li
Wetland Hydrolog	gy Present? Y	es No V			
Remarks:	AND POINT ESTAB	screlling on Itel 1	MOR		
(OtoHQ	of 1810-601	0185			
HYDROLOGY			•.		
green and					
Wetland Hydrolo		danal alaasi allahas adamba			s (minimum of two required)
	s (minimum of one is requ	,	(01.1)	Surface Soil Cra	
Surface Water T		True Aquatic Plants		_	ated Concave Surface (B8)
Saturation (A	· · · · · · · · · · · · · · · · · · ·	Hydrogen Sulfide C	eres on Living Roots (C3	Drainage Patter Moss Trim Lines	
Water Marks		Presence of Reduc	-	Dry-Season Wa	
Sediment De	The state of the s		tion in Tilled Soils (C6)	Crayfish Burrow	
Drift Deposits		Thin Muck Surface			e on Aerial Imagery (C9)
Algal Mat or		Other (Explain in R	emarks)	Stunted or Stres	0 0 1
Iron Deposits	s (B5)			Geomorphic Pos	sition (D2)
_	isible on Aerial Imagery (E	37)		Shallow Aquitare	d (D3)
Water-Staine	ed Leaves (B9)	• ,		Microtopographi	c Relief (D4)
Aquatic Faur	na (B13)			FAC-Neutral Te	st (D5)
Field Observation	ons:		. 1 .		
Surface Water Pr		No Depth (inches):	NA		
Water Table Pres	sent? Yes	NoDepth (inches):	1.0		
Saturation Preser (includes capillary	_	No Depth (inches):	V N Wetland	Hydrology Present?	Yes No C
		onitoring well, aerial photos, p	revious inspections), if a	vailable:	
	NA				
Remarks:				i	
	NO INSTEATORY	OF WILTLAND H	yorovoig	, •	
× .					
					,
					e e
		4.			
	· · · · · · · · · · · · · · · · · · ·				

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 301 K)		Species?		Non-land Consider the Consider
1. QUELLUS RUBRA	40	<u> </u>	FAW	That Are OBL FACW or FAC: (A)
2. QUELLIS ALIBA	30	Y	FACU	Total Number of Dominant
3. PINVI TAKOA	20	W	FAC	Species Across All Strata: 7 (B)
4. LIQUED AMBAR STYRALFUM	1.5	N	FAL	
5	×			Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
6.		5 x x "		That Are OBL, FACW, or FAC: (A/B)
0	105	= Total Cov	رور تراور رور تراور	Prevalence Index worksheet:
			,	Total % Cover of: Multiply by:
50% of total cover:	20% 01	total cover	:	OBL species x 1 =
Sapling Stratum (Plot size: 1517	20	4.	FACU	FACW species x 2 =
1. CIRIODENDRON TULTPIRAA	·	7		FAC species x 3 =
2. CONDUI FLOATOA	20	- - 	FACU	FACU species x 4 =
3. LIQUED AMBAR (TYRACTFLUA)	15	{	FAC	UPL species x 5 =
4. CARYA WROS FORMS	10	· ·	FACU	Column Totals: (A) (B)
5. QUEACUL RUBRA	10	N	FACU	Column rotals (A) (B)
6.				Prevalence Index = B/A =
	75	= Total Cov	/er 38/15	Hydrophytic Vegetation Indicators:
50% of total cover:				1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size: 151 K	20% 0	total cover	·	2 - Dominance Test is >50%
1. CARPUN CARULALANA	10	4	FAI	3 - Prevalence Index is ≤3.0¹
				
2				4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
3				Problematic Hydrophytic Vegetation ¹ (Explain)
4				Explain,
5				¹ Indicators of hydric soil and wetland hydrology must
6				be present, unless disturbed or problematic.
	_10	= Total Co	/er	Definitions of Five Vegetation Strata:
50% of total cover:	20% 0	f total cover	:	
Herb Stratum (Plot size: 5 R)				Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
1. VACCENTUM ANGUSTEROUTUM	5	Y	FALU	(7.6 cm) or larger in diameter at breast height (DBH).
2		·	. 1.13.	
			·	Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
3				than 3 in. (7.6 cm) DBH.
4				Clark Westschools and discount discount
5		-		Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
6				
7				Herb - All herbaceous (non-woody) plants, including
8				herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3
9				ft (1 m) in height.
10				Moody vino All woody vinos rogardless of height
11				Woody vine – All woody vines, regardless of height.
·	5_	= Total Co	ver	
50% of total cover:	20% 0	f total cover		٧.
Woody Vine Stratum (Plot size: 30 (2)	2070 0	. total oova	·	
1. NA				
2				
3				
4			· ——	
5				Hydrophytic
		= Total Co	ver	Vegetation
50% of total cover:	20% o	f total cove		Present? Yes No V
Remarks: (Include photo numbers here or on a separate	sheet.)			I.
	HYDRO	CHITES	DO NO	of DOM DUATE.
1	11,500	1 1 1 2 - 2		

\sim	1	1	
~ 11		1	

Sampling Point: WCUKOlleLU

Depth (inches)		•	an needed to docum	ment the i	ndicator	or confirm	n the absence of indicators.)
	Matrix Color (moist)	x	Redo Color (moist)	x Feature: %	Type ¹	_Loc²	
0-3	104R 4/Z	100	NA	NA	NA	NA	Texture Remarks
3-90;	104R416	100	NA	NA		NA	VERY FINE SANDY LOAM
9-18	10 YR 5/3	<u> გა</u>	NA	NA	NA	NA	SILT LOAM
	104R 5/6	<u> 20</u>	NA		NA		SILT LOAM
	101N 316			NA	NA	NA	
	-	<u> </u>					
-						-	•
	<u> </u>	<u>-</u>					
				-			
		<u> </u>					-
	·		· · · · · · · · · · · · · · · · · · ·			***************************************	
¹ Type: C ·C	oncentration, D=D	epletion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra		² Location: PL=Pore Lining, M=Matrix.
Hydric Soil I	Indicators:						Indicators for Problematic Hydric Soils ³ :
Histosol			Dark Surface				2 cm Muck (A10) (MLRA 147)
☐ Histic Ep ☐ Black Hi	pipedon (A2)		Polyvalue Be	low Surfac	e (S8) (N	ILRA 147,	148) Coast Prairie Redox (A16)
	en Sulfide (A4)		☐ Thin Dark Su☐ Loamy Gleye	rface (S9)	(MLRA 1	47, 148)	(MLRA 147, 148)
	Layers (A5)		Depleted Mai	u wanx (i trix (F3)	. 2)		Piedmont Floodplain Soils (F19) (MLRA 136, 147)
🗓 2 cm Mu	ick (A10) (LRR N)		Redox Dark		5) .		Very Shallow Dark Surface (TF12)
Depleted	d Below Dark Surf	ace (A11)	Depleted Dar				Other (Explain in Remarks)
	ark Surface (A12) Nucky Mineral (S1	\	Redox Depre				•
	147, 148)	(LKK N,	Iron-Mangani MLRA 13		s (F12) (I	₋RR N,	
	Bleyed Matrix (S4)	,	Umbric Surfa		VLRA 13	6. 122)	³ Indicators of hydrophytic vegetation and
	Redox (S5)		Piedmont Flo	odplain So	ils (F19)	(MLRA 14	 wetland hydrology must be present.
	Matrix (S6)		Red Parent N	/laterial (F2	1) (MLR	A 127, 147	7) unless disturbed or problematic.
Type:	Layer (if observe	o):					
••	ches):						
							Hydric Soil Present? Yes V No No
Remarks:		5016	/A/A/ CATE		OB 5 6	מי מי נית	
	HYDRIC	SOIL	MI CATIM	ري د	OR 5 E	RNE O	
Remarks:		SOIL	MI CATIN	င္ဟ	OR 51E	RVEO	
Remarks:		5016	Mbi CATEM	င	OR 5 Æ	RVEO	
Remarks:		SOIL	MISI CATEM	C.J.	OR 51E	RVEO	
Remarks:		SOIL	Mil CATIN	CJ.	OR 51E	RVE	
Remarks:		501L	MISI CATION	C.J	OR 51E	RVE	
Remarks:		SOIL	MISI CATEM	C.J	OR 5 E	R-VE l	
Remarks:		SOIL	Mil CATH	CJ	OR 5.E	RVEO	
Remarks:		SOIL	Mis CATIO	C.J	ORSE	RVED	
Remarks:		SOIL	MISI CATION	C.J	OR 5,6	RNED	•
Remarks:		SOIL	Mil CATIN	င္	OR SIE	RVE	<u> </u>
Remarks:		SOIL	Mil CATIN	CJ	OR SIE	RVED	•
Remarks:		SOIL	Mil CATIO	C.J	ORSE	RVED	•
Remarks:		SOIL	MI CATIN	C.J	OR SÆ	RNED	•
Remarks:		SOIL	MOI CATIO	C.J	OR 5.E	RNED	
Remarks:		SOIL	Mil CATIN	င္	OR SIE	RVED	•
Remarks:		SOIL	Mil CATIO	CJ	ORSE	RVED	•
Remarks:		SOIL	MI CATIN	C.J	OR SE	RNED	•



Upland data point wcuk016_u facing North



Upland data point wcuk016_u facing South



Upland data point wcuk016_u soil sample

Project/Site: SEAP	City/County:	CULBERLAMS Samp	oling Date: 08/27/20
Applicant/Owner: DOMFNION		State: VA Sa	mpling Point: WCVKOZC
Investigator(s): 5: 5welller	Section, Townsh		
Landform (hillslope, terrace, etc.): HIANWATER	Local relief (concav	ve, convex, none):	Slope (%): 0 -1
Subregion (LRR or MLRA): LRRP Lat: Lat:	37.361314115	_ Long: <u>78, 375965173</u>	
Soil Map Unit Name: HEVENA SANDY W.	AM , 770 15 % SWP	ES NWI classification:	NA
Are climatic / hydrologic conditions on the site typical for	this time of year? Yes		
Are Vegetation, Soil, or Hydrology	_ significantly disturbed?	Are "Normal Circumstances" present	t? Yes No
Are Vegetation, Soil, or Hydrology	_ naturally problematic?	(If needed, explain any answers in R	Remarks.)
SUMMARY OF FINDINGS – Attach site ma	p showing sampling p	oint locations, transects, imp	ortant features, etc.
	No within a	nmpled Area Wetland? Yes N	
Remarks: POINT ESTABULITED IN H	RADWATER WAT L	AND ASSOCIATED WITH	+ EPHEMIRAL
STREAM SCUHO39a ALL CRITER			, , , ,
	, , , , , , , , , , , , , , , , , , ,		
PHOTOS 100-0224 TO 0228			
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators (r	minimum of two required)
Primary Indicators (minimum of one is required; check a	all that apply)	Surface Soil Crack	s (B6)
Surface Water (A1)	rue Aquatic Plants (B14)		d Concave Surface (B8)
	ydrogen Sulfide Odor (C1)	_ Y Drainage Patterns	(B10)
_ , ,	xidized Rhizospheres on Livin		
	resence of Reduced Iron (C4)		
	ecent Iron Reduction in Tilled		
, , ,	hin Muck Surface (C7)	Saturation Visible of Stresse	
Algal Mat or Crust (B4) C Iron Deposits (B5)	ther (Explain in Remarks)	Geomorphic Position	' '
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitard (I	
Water-Stained Leaves (B9)		Microtopographic F	
Aquatic Fauna (B13)		FAC-Neutral Test (, ,
Field Observations:			
Surface Water Present? Yes No [Depth (inches):		
Water Table Present? Yes No I	Depth (inches): ベ タ	4	
Saturation Present? Yes No		Wetland Hydrology Present?	/es No
(includes capillary fringe)	II aprial photos provious inco	antiona) if available	
Describe Recorded Data (stream gauge, monitoring we	ii, aeriai photos, previous insp	ections), if available.	
Remarks: AUO OBSIENVEY SHALLOW	ROUTS ON RED	MAPLE TREES. SEVEN	CAL HYDROLOGY
INDECATORS PREJENT. CRITERIA	MET.		
		•	

VEGETATION (Five Strata) – Use scientific na	ames of	plants.		Sampling Point: WWKs	32¢
Tree Stratum (Plot size: 30°(2)	Absolute	Dominant	Indicator	Dominance Test worksheet:	
1. ACKL RUBEN		Species?		Number of Dominant Species 4	
2. Ulmus RUBRA	70	- 1	FAC	That A OD! Excist	(A)
3. PLATANUS DOLLIDENTALES	10		FAL	Total Number of Dominant	
5. POTTI MISO) (1001/140)	10	/	FACU	1 0	(B)
5			, — . — .	Percent of Dominant Species (A)	,
6				That Are OD! Exclass The	A/B)
6	00			Prevalence Index worksheet:	
	90	= Total Cov		T 1 10/ 0	
50% of total cover: 45	20% of	total cover	<u>. / පි</u>		
Sapling Stratum (Plot size: ISIR	2.5			OBL species x 1 =	
1. CLQSDAMBAR STYRACIFURA	30	<u> </u>	FAC	FACW species x 2 =	
2				FACIl procies x 3 =	
3				FACU species x 4 =	
4				UPL species x 5 =	
5				Column Totals: (A)	(B)
6	3.0			Prevalence Index = B/A =	7
	30 =	Total Cov	er	Hydrophytic Vegetation Indicators:	
50% of total cover:		total cover:		1 - Rapid Test for Hydrophytic Vegetation	
Shrub Stratum (Plot size: 15'R)				2 - Dominance Test is >50%	
1. CIOUIN AMBAR STYRACIFLUA	_/0	_ Y	FAC	3 - Prevalence Index is ≤3.01	
2				4 - Morphological Adaptations ¹ (Provide suppor	rtina
3				data in Remarks or on a separate sheet)	9
4				Problematic Hydrophytic Vegetation ¹ (Explain)	
5				*	
6				¹ Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic.	st
	10 =	Total Cove	er	Definitions of Five Vegetation Strata:	
50% of total cover:	20% of t	otal cover	Z		
Herb Stratum (Plot size: 5'R)				Tree – Woody plants, excluding woody vines,	
1 <i>N</i> A				approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH)	
2				,	,.
3				Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less	
4				than 3 in. (7.6 cm) DBH.	
5				Shrub – Woody plants, excluding woody vines,	
6				approximately 3 to 20 ft (1 to 6 m) in height.	
7				Herb – All herbaceous (non-woody) plants, including	
8				herbaceous vines, regardless of size, and woody	
9				plants, except woody vines, less than approximately ft (1 m) in height.	3
10					.
11				Woody vine - All woody vines, regardless of height.	.
_	=	Total Cove	r		
50% of total cover:	_ 20% of to	ofal cover			
Woody Vine Stratum (Plot size:)	_				İ
1. SMILAX ROTUNDS FOULA	90	γ	FAC		
2. LONSIERA JAPONELA	20	N	FAL		
3					
4					
5					
	110 =	Total Cove	r	Hydrophytic	
50% of total cover: 55		otal cover:_		Vegetation Present? Yes No	
Remarks: (Include photo numbers here or on a separate she					

VEGETATION

PAISE DOMINANCE TEST

Profile Desc	cription: (Describe	to the dept	h needed to docum	ent the i	ndicator	or confirm	n the absence	of indicators.)
Depth	Matrix			(Features	3			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	_Loc2	Texture	Remarks
0-5	10825/3	100			٠ ـ	Ü	SILT	LOAM
5-18	2.54 7/2	90	7.54R5/8	10	6	PL		LOAM
		. ——			 			
		•	-					
	-							
					-			
		:						
							-	•112
	-		·					
Type: C=Co	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	=Masked	Sand Gra	ins.	² Location: P	L=Pore Lining, M=Matrix.
Hydric Soil								ators for Problematic Hydric Soils ³ :
Histosol			Dark Surface	. ,				cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Bel				148) 0	coast Prairie Redox (A16)
Black Hi	stic (A3) n Sulfide (A4)		Thin Dark Sur	face (S9)	(MLRA 1	47, 148)		(MLRA 147, 148)
	Layers (A5)		Loamy Gleyed Depleted Matr		-2)		P	liedmont Floodplain Soils (F19)
	ick (A10) (LRR N)		Redox Dark S		3)			(MLRA 136, 147)
	Below Dark Surface	e (A11)	Depleted Dark					ery Shallow Dark Surface (TF12) Other (Explain in Remarks)
Thick Da	ark Surface (A12)	` . '	Redox Depres					(Explain in Normano)
	lucky Mineral (S1) (L	.RR N,	Iron-Mangane		s (F12) (L	RR N,		*
	147, 148)		MLRA 136					t.
	lleyed Matrix (S4)		Umbric Surfac					icators of hydrophytic vegetation and
	edox (S5) Matrix (S6)		Piedmont Floo					tland hydrology must be present,
	ayer (if observed):		Red Parent M	aterial (F2	21) (MLRA	127, 147	7) un	less disturbed or problematic.
Type:							- 12	
Depth (inc								
	, ies)						Hydric Soil	Present? Yes No No
Remarks:								·
								A
F E							*	1
			W.	11				\mathcal{N}_{-}
	* .		/F	THE OWNER OF THE OWNER, THE OWNER, THE OWNER, THE OWNER, THE OWNER, THE OWNER, THE OWNER, THE OWNER, THE OWNER,	Canada	* 6		
			// /			of the latest desired in which the latest desired in the latest de		SURVEY EXTENT
			· / / ·	4	1			JUKURY EXTENY
+	W	LUKU20_	u / /	•	- [T
F.			/ 6.10.11	10205	الدر			· •
-		4			_	F	onesten i	150 ft
			5 conc374		1			120 21
			\$		\rightarrow			
			13	<u> </u>				
					~	-		
			1/2					
SURVEY			Yarow.					
- WARA	EXTERN	_	/ 3	3				120 tt
ľ	601		_ \	<u>`</u>				
				1				
					A	_		
L				_	7			<u> </u>



Wetland data point wcuk020f_w facing North



Wetland data point wcuk020f_w facing South



Wetland data point wcuk020f_w soil sample

Project/Site: SERP	City/County: <u>CUMBERLAND</u> sampling Date: <u>08/27/2</u> 0
Applicant/Owner; D& MrNION	State: VA Sampling Point: JANKADO
Investigator(s): T. SWEITZER B. CRIFFITH S	Section, Township, Range: WA
	al relief (concave, convex, none): Wove Slope (%): 5
Subregion (LRR or MLRA): LRR P Lat: 27.36134	
Soil Map Unit Name: HELENA SANDY LOAM, 7	10 15 % SUPES NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year	r? Yes No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly of	disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally prob	
SUMMARY OF FINDINGS - Attach site man showing	sampling point locations, transects, important features, etc.
Commented of the bird of Account of the bird of the bi	sampling point locations, transects, important leatures, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
Hydric Soll Present? Yes No	within a Wetland? Yes No
Wetland Hydrology Present? Yes No	
Remarks;	
PHOTOS 100-0229 to 0233	
Company of the second of the s	
UPLANN POINT ESTABLISHED ON	FLAT NEAR BASE OF SLAPE.
LIVER OF CONT.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Pla	
High Water Table (A2) Hydrogen Sulfid Saturation (A3) Oxidized Rhizos	e Odor (C1) Drainage Patterns (B10) pheres on Living Roots (C3) Moss Trim Lines (B16)
Saturation (AS) Oxidized Rflizos Oxidized Rflizos Presence of Rec	
•1	Juction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surfa	
Algal Mat or Crust (B4) Other (Explain in	
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes No 📈
(Includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos	s, previous inspections), if available:
Remarks:	
NO INDICATORS OF WETL	AND HYDROLOGY OBSERVED
	/
	•
	·

VEGETATION (Five Strata) – Use scientific na	Absolute		Indicator	Sampling Point: WWK 020 Dominance Test worksheet:
Tree Stratum (Plot size: 36 'R)	% Cover	Species?	Statue	
1. ACER RUBRUM				Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2				
3				Species Across All Strata: (B)
4			·	
V				Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
6				
/1-		= Total Cov		Prevalence Index worksheet:
50% of total cover: 45	20% of	total cover:	<u> 18</u>	
Sapling Stratum (Plot size: 15'R)	_			OBL species x1=
1. ULMUS RUBRA 2. LIQUIDAMBAR STYRAGIFLUA	_5_	<u> </u>	FAC	FACW species x 2 = FAC species x 3 =
2. LIQUIDAMBAR STYRACIFLUA	_5_	7	FAC	
3				FACU species x 4 =
4			_	UPL species x 5 =
5				Column Totals: (A) (B)
6				Prevalence Index = B/A =
		= Total Cov		Hydrophytic Vegetation Indicators:
50% of total cover:5	20% of	total cover:	2	1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size: 15 'R)				2 - Dominance Test is >50%
1. LIGUSTRUM SINENSE	<u> 30 </u>	Y	FACY	3 - Prevalence Index is ≤3.0 ¹
2. JUNIPERUS VIRGINIANA	20	У.	FACY	4 - Morphological Adaptations ¹ (Provide supporting
3. ILEX OPACA	5	λ	FAC	data in Remarks or on a separate sheet)
4				Problematic Hydrophytic Vegetation ¹ (Explain)
5				4
6				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
,	55 :	= Total Cove	er	Definitions of Five Vegetation Strata:
50% of total cover: Z &	20% of	total cover:	1/	
Herb Stratum (Plot size: 5 R)		•		Tree – Woody plants, excluding woody vines,
1. RUBUS Flagellans	10	7	FAL	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
2	-			
3				Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
A				than 3 in. (7.6 cm) DBH.
5				Shrub – Woody plants, excluding woody vines,
6				approximately 3 to 20 ft (1 to 6 m) in height.
7	1			Herb – All herbaceous (non-woody) plants, including
8				herbaceous vines, regardless of size, and woody
9				plants, except woody vines, less than approximately 3
10				ft (1 m) in height.
11				Woody vine – All woody vines, regardless of height.
•	10 =	Total Cove	er	
50% of total cover:	20% of	total cover:_	7	
Woody Vine Stratum (Plot size: 35 'R)	_ 2070 01			
1. LOWICERA JAPONICA	60	V	FAL	
2. SMILAX ROTUNDIFOL 14	10	Y	FAL	
3. VITIS AESTIVALIS	5	1/	FALL	•
4.			1	
5.	-		-	•
	70-	Total Cove		Hydrophytic
7.0				Vegetation Present? Yes No
50% of total cover: 3 6		total cover:_	15	NO_V
Remarks: (Include photo numbers here or on a separate sh	eet.)			

DOMEN ANUE TEST

VECETATION

Sampling Point: WCUK 020_4

Profile Des	cription: (Describe	to the dept	n needed to docu	ment the i	ndicator	or confly	m the absence of indicators.)
Depth	Matrix	10 m.o dopt.		x Features		or comm	in the absence of indicators.)
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	_Type ¹	_Loc ²	Texture Remarks
04/	104R8/2	100					SANDI LOAM
1-184	104R413	90	104R516	2	0	M	SANDY LOAM
	10 YR 312	8					
	10 111012						
							· ·
<u>:</u>							
			-				
							
				——			
	·						
							-
¹ Type: C=Co	oncentration, D=Dep	oletion, RM=F	Reduced Matrix, MS	S=Masked	Sand Gra	ins.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soil I	ndicators:						Indicators for Problematic Hydric Soils ³ :
Histosol		, .	Dark Surface			,	2 cm Muck (A10) (MLRA 147)
	ipedon (A2)		Polyvalue Be	low Surfac	e (S8) (MI	LRA 147,	, 148) Coast Prairie Redox (A16)
Black His			Thin Dark Su	rface (S9)	(MLRA 14	17, 148)	(MLRA 147, 148)
	n Sulfide (A4) I Layers (A5)		Loamy Gleye		-2)		Piedmont Floodplain Soils (F19)
	ck (A10) (LRR N)		Depleted Mat	` '	2)		(MLRA 136, 147)
	Below Dark Surfac	e (A11)	Depleted Dar				Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
Thick Da	rk Surface (A12)		Redox Depre				Other (Explain in Remarks)
Sandy M	ucky Mineral (S1) (I	LRR N,	Iron-Mangane			RR N,	
	147, 148)		MLRA 136	6)			
	leyed Matrix (S4)		Umbric Surfa	ce (F13) (N	/ILRA 136	, 122)	³ Indicators of hydrophytic vegetation and
	edox (S5) Matrix (S6)		Piedmont Flo	odplain So	ils (F19) (I	MLRA 14	3 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
	ayer (if observed):		Red Parent M	laterial (F2	1) (MLRA	127, 147	7) unless disturbed or problematic.
Type:							
Depth (inc	/ / /						
Remarks:	1163).		-				Hydric Soil Present? Yes No
		_					4.
NC	MYD	RIC	SOIL	IN	DICAT	250	OBSERVED
						1	· · · · · · · · · · · · · · · · · · ·
	~			i,			
	SEŁ	SHET	H ON	WLU	M 0 Z	SOF	W DATA FORM
	7-0			.8			, Comment
			· .				
					1		•
		•					
		-					



Upland data point wcuk020_u facing North



Upland data point wcuk020_u facing South



Upland data point wcuk020_u soil sample

Project/Site:	SERP	City/0	County: CUMBER C	AND Sar	mpling Date: 08/26/2019
Applicant/Owner:	DOMINION			State: VA	Sampling Point: WUNCO17
Investigator(s):	J. SWELTLER	Secti	on, Township, Range:		
Landform (hillslope, to	errace, etc.): LOFLING 7	RAIL Local re	lief (concave, convex, no	ne): None	Slope (%): <u>2-3</u>
Subregion (LRR or M	RA): LRRP	Lat: <u>37.36038</u> 2	<u> ふるい .</u> Long: <u>7</u> 8	3.37466497	Datum: NA01993
Soil Map Unit Name:		LOAM, 7-15%	slapts/	NWI classification	n: NA
Are climatic / hydrolog	ic conditions on the site typic	al for this time of year?	res No No	(If no, explain in Rema	rks.)
Are Vegetation	Soil, or Hydrology _	significantly distu	rbed? Are "Norma	I Circumstances" prese	ent? Yes 🗾 No 🦳
Are Vegetation	, Soil, or Hydrology [naturally problem	atic? (If needed,	explain any answers in	Remarks.)
OURAN OV OF					
SUMMORRY OF I	INDINGS - Attach site	map snowing san	npling point location	ons, transects, im	portant features, etc.
Hydrophytic Vegeta	ion Present? Yes	No .			
Hydric Son Present?		V No	Is the Sampled Area within a Wetland?	Yes V	No -
Wetland Hydrology	1	No			<u> </u>
Remarks: Small		WED DUE TO	UNDERSEZED	CULVERT USE	AT
EPHEMERA	L WASH CAUSED	IMPOUNDMEI	VI AT LOUG	INL TRAIL	•
PHOTUS 10	0-0199 10 0201				
HYDRO: OGY					
Wetlan : Tydrology	Indicators			Casandan Indiantara	(minimum of the managinal)
	minimum of one is required; ch	anck all that apply)		Surface Soil Crac	(minimum of two required)
Surface Water		_	(01.4)		` '
High Water Tab		True Aquatic Plants Hydrogen Sulfide Od			ed Concave Surface (B8)
Saturation (A3)	E (A2)		res on Living Roots (C3)	Drainage Pattern Moss Trim Lines	
Water Marks (B	1)	Presence of Reduce		Dry-Season Water	
Sediment Depo		Recent Iron Reduction		Crayfish Burrows	
Drift Coposits (E		Thin Muck Surface (on Aerial Imagery (C9)
Algal Mat or Cru		Other (Explain in Re	·	Stunted or Stress	
Irca Deposits (E				Geomorphic Posi	` '
Incodation Visib	le on Aerial Imagery (B7)			Shallow Aquitard	
W. to: Stained I	.eaves (B9)	14		Microtopographic	
☐ Acuse c Fauna (B13)			FAC-Neutral Test	
Field Cospressions	:				
Surface Stater Pres	ent? Yes No	Depth (inches): 1	<u>/A</u>	•	
Water Table Presen	? Yes No	Depth (inches): N	<u>'A</u>		
Saturation Present?		Depth (inches): N	Metland I	Hydrology Present?	Yes No No
(includes pillary fr	nge) Data (stream gauge, monitorir	na well aerial photos pro	vious inspections) if ave	ailabla	
Descrine and order	VA	ig well, aeriai priotos, pre	evious irispections), ii ava	aliable:	
Domari	'VA				
Remarks:	auloly crittai	A MET.			
				•	
					. ,
,	•				
I					

Pa/-	Absolute	Dominant	Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size: Po' R)		Species?	-	Number of Dominant Species	8	(4)
1. ALIN RUBRUM	30	<u> </u>	FAL	That Are OBL, FACW, or FAC:		(A)
2				Total Number of Dominant	8	
3				Species Across All Strata:		(B)
4				Percent of Dominant Species	100	
5				That Are OBL, FACW, or FAC:		(A/B)
6				David and the state of the stat		
		= Total Co	ver	Prevalence Index worksheet:	N. A. elstinaler lave	
50% of total cover:	20% o	f total cover	r: 9	Total % Cover of:		
Sapling Stratum (Plot size: /0'/7			-	OBL species x		
1 LIQ-FOAMB AR STYRAGIF GUA	5	Y	FAC	FACW species x		
2 TLEX OPALA	5	7	FAC	FAC species x		
2,				FACU species x		
3				UPL species x		
4				Column Totals: (A	i)	_ (B)
5				Dravalance lades D/A		
6	7.0	= Total Co		Prevalence Index = B/A =		
			-	Hydrophytic Vegetation Indica		
50% of total cover: _5	20% of	ftotal cover	r:Z	1 - Rapid Test for Hydrophy		
Shrub Stratum (Plot size: / 0 /12	1		500	2 - Dominance Test is >50%		
1. CIQUIDAMBAR STRACIFIUM	/5	<u> </u>	FAC	3 - Prevalence Index is ≤3.0		
2				4 - Morphological Adaptation data in Remarks or on a	ns¹ (Provide sup	porting
3					•	:>
4				Problematic Hydrophytic Ve	getation (Expla	in)
5				1		
6.				¹ Indicators of hydric soil and wet be present, unless disturbed or p	land hydrology r problematic	nust
	10	= Total Co	ver	Definitions of Five Vegetation		
50% of total cover: 5				Demilitions of Five Vegetation	Su ata:	
Herb Stratum (Plot size: 10 /2)	20 % 01	total covel		Tree - Woody plants, excluding		
1. JUNIUS WRIACEUS	30	Y	FAW	approximately 20 ft (6 m) or more (7.6 cm) or larger in diameter at	e in height and 3 breast beight (D	in. RHV
2. LERGIA ORYLOGOES	30	· - '	OPL	(7.5 cm) of larger in diameter at	breast height (b	Di iy.
3. DICHANTHELLUM DECHOTOMUM		- 		Sapling – Woody plants, excludi	ing woody vines	,
3. DECHIANTECTOIN DECHOTORY			FAL	approximately 20 ft (6 m) or more than 3 in. (7.6 cm) DBH.	e in neight and i	ess
4						
5				Shrub – Woody plants, excluding approximately 3 to 20 ft (1 to 6 m	g woody vines,	
6						
7				Herb - All herbaceous (non-woo		
8		-		herbaceous vines, regardless of plants, except woody vines, less		
9				ft (1 m) in height.		, -
10				Woody vine – All woody vines, r	enardless of he	iaht
11	-01			17 Joseph Ville Vill Woody Villes, 1	egaraicss of fie	igric.
	<u>_&</u>	= Total Co	ver ,			
50% of total cover: 40	20% of	total cover	:_16			
Woody Vine Stratum (Plot size:)	_					
1. LONGUER JAPONICA	<u>20</u>	<u> </u>	FAL			
2						
3						
4						
5						
	20	= Total Cov	/er	Hydrophytic Vegetation	<i></i>	
50% of total cover: 10				Present? Yes	No L	
Remarks: (Include photo numbers here or on a separate s	-	AALL P	LUT D	UR TO SILE OF WE	FCAND.	
VELGTATEUN PASSES COMENANUE T	RIT.					

Sampling Point: WUKO17e.W

	cription: (Desc	ribe to the de	pth needed to docur	nent the in	dicator o	or confirm	the absence of	f indicator	s.)	
Depth (inches)	Color (mois		Redo	x Features %	Type ¹	Loc ²	Texture		Remarks	
0-4	7.548 51		Light .		Type		LO.Am Y	50.640		
4.16	2.5486		7.5784/6	40	-c	Plolis		COAM		
1 10	ZO IND	11 -	1121K 1/V	70		1 4/10		0 00,707		
			•						*****	
							<u> </u>			
			·							
		· · · · · · · · · · · · · · · · · · ·						• .		
							· · · · · ·			
The state of the s										
	-								-	
¹Tyne: C. C	`oncentration D=	-Depletion RM	1=Reduced Matrix, MS	S-Masked	Sand Gra	ine.	² Location: PL:	-Pore Linin	a M–Matriy	
	Indicators:	-Depicaon, raiv	i=Reduced Matrix, IV.	J-Maskea .	Janu Gra	11113.			blematic Hy	dric Soils ³ :
History	(Λ1)		☐ Dark Surface	e (S7)					10) (MLRA 1	
	pipedon (A2)		Polyvalue Be	low Surface					Redox (A16)	
	istic (A3)		Thin Dark Su			47, 148)		MLRA 147		()
	en Sulfide (A4) ed Layers (A5)		Loamy Gleye Depleted Ma		2) .			dmont Floo MLRA 136	odplain Soils	(F19)
	uck (A10) (LRR	N)	Redox Dark		s) · · · ·	,			, 147) Dark Surface	(TF12)
Deplete	d Below Dark St	urface (A11)	Depleted Da	rk Surface ((F7)				in Remarks)	
	ark Surface (A12		Redox Depre			`				
	Mucky Mineral (S A 147, 148)	51) (LRR N,	☐ Iron-Mangan MLRA 13		s (F12) (L	RR N,				
	Sleyed Matrix (S	4)	Umbric Surfa		ILRA 136	6, 122)	3Indic	ators of hy	drophytic veg	etation and
	√edox (S5)	*	Piedmont Flo							
					112 (1 12)	(MLRA 148	d) weti	and hydrold	gy must be p	1 63611C
	Matrix (S6)		Red Parent N						d or problema	
Restrictive	ayer (if observ	ved):	Red Parent N							
Restriction	ayer (if observ		Red Parent N) unle	ss disturbe	d or problema	
Restrictives Type	ayer (if observ		Red Parent N					ss disturbe	d or problema	
Restriction	ayer (if observ		Red Parent N) unle	ss disturbe	d or problema	
Restrictives Type	ayer (if observ		Red Parent N) unle	ss disturbe	d or problema	
Restrictives Type	ayer (if observ		Red Parent N) unle	ss disturbe	d or problema	
Restrictives Type	ayer (if observ		Red Parent N) unle	ss disturbe	d or problema	
Restrictives Type	ayer (if observ		Red Parent N) unle	ss disturbe	d or problema	
Restrictives Type	ayer (if observ		Red Parent N) unle	ss disturbe	d or problema	
Restrictives Type	ayer (if observ		Red Parent M) unle	ss disturbe	d or problema	
Restrictives Type	ayer (if observ		Red Parent M) unle	ss disturbe	d or problema	
Restrictives Type	ayer (if observ		Red Parent N) unle	ss disturbe	d or problema	
Restrictives Type	ayer (if observ		Red Parent N) unle	ss disturbe	d or problema	
Restrictives Type	ayer (if observ		Red Parent M) unle	ss disturbe	d or problema	
Restrictives Type	ayer (if observ		Red Parent N) unle	ss disturbe	d or problema	
Restrictives Type	ayer (if observ		Red Parent N) unle	ss disturbe	d or problema	
Restrictives Type	ayer (if observ		Red Parent N) unle	ss disturbe	d or problema	
Restrictives Type	ayer (if observ		Red Parent M) unle	ss disturbe	d or problema	
Restrictives Type	ayer (if observ		Red Parent N) unle	ss disturbe	d or problema	
Restrictives Type	ayer (if observ		Red Parent N) unle	ss disturbe	d or problema	
Restrictives Type	ayer (if observ		Red Parent N) unle	ss disturbe	d or problema	
Restrictives Type	ayer (if observ		Red Parent M) unle	ss disturbe	d or problema	
Restrictives Type	ayer (if observ		Red Parent N) unle	ss disturbe	d or problema	



Wetland data point wcuk017e_w facing North



Wetland data point wcuk017e_w facing South



Wetland data point wcuk017e_w soil sample

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont City/County: <u>CUMBERLAND</u> Applicant/Owner: <u>DAMINION</u> Investigator(s): J. SWEITZER, B. GRIFFITH Landform (hillstope, terrace, etc.): HILLSLOPE) NONE Local relief (concave, convex, none): Subregion (LRR or MLRA): LRQ ? Lat: 37, 36050 1180 Datum: NAW 1983 Soil Map Unit Name: HELENA SANDY LOAM, 7 TO 15 % SLOPE NWI classification: Are climatic / hydrologic conditions on the site typical for this time of year? Yes O (If no, explain in Remarks.) Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ______ 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? is the Sampled Area Hydric Soil Present? within a Wetland? Wetland Hydrology Present? Remarks: 100-0202 50 100-0206 POINT ESTABLESHED ON ATLL SLUPE. **HYDROLOGY** Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Microtopographic Relief (D4) Aquatic Fauna (B13) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Depth (inches): Yes O No Depth (inches): __ Water Table Present? Saturation Present? Depth (inches): Wetland Hydrology Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: HYDROLOGY WETLAND NO INDILATORS OBSERVED

	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u> </u>		Species?		Number of Dominant Species /
1. DUERCUS ALBA	40	<u> </u>	FACU	That Are OBL, FACW, or FAC: (A)
2. CARPINUS CAROLINIANIA	15	4	FAC.	Total Number of Dominant Q
3. PINUS VIRUNIANA	<u>/D</u>	N	UPL	Species Across All Strata:(B)
4. LIQUIDAMBAR STYRALIFLUA	_5_	<u> </u>	FAC	Percent of Dominant Species
5. LIRIONENORUN TULIPIPERA	_5_	N	FACU	That Are OBL, FACW, or FAC:
6.				
7,				Prevalence Index worksheet:
	0 75	= Total Co	ver	Total % Cover of: Multiply by:
Sapling Stratum (Plot size: 15 'R)				OBL species x1 = 1
1. QUERCUS ALBA	25-	Y	FAC	FACW species x 2 = 1
2. LIQUIDAMBAR STYRACIFLUA	25	<u> </u>	FAC	FAC species x 3 = 1
3. VILMUS RUBRA		N	FAL	FACU species x 4 = 1
4. Calcit was at				UPL species x5 = 1
5				Column Totals: 0 (A) 5 (B)
6			•	
7				Prevalence Index = B/A =
	0 55	= Total Co	vor	Hydrophytic Vegetation Indicators:
Shrub Stratum (Plot size: 15 'R)		- Total Co	vei	1 - Rapid Test for Hydrophytic Vegetation
1. LIQUIDAMBAR STURACIFUA	40	Y	FAC	2 - Dominance Test is >50%
2. CARYA CORDIFORMS	10	N	FAC	3 - Prevalence Index is ≤3.0 ¹ ·
3. OVERLUS ALBA	10	N	FALU	4 - Morphological Adaptations ¹ (Provide supporting
4. QUERCUS FALCATA	10	- 	FACU	data in Remarks or on a separate sheet)
	10		FAL	Problematic Hydrophytic Vegetation¹ (Explain)
		- - - - - - - - - - 		
6			·	¹Indicators of hydric soil and wetland hydrology must
7	<u> </u>			be present, unless disturbed or problematic.
Horb Stratum (Diet einer	<u> </u>	= Total Co	ver	Definitions of Five Vegetation Strata:
Herb Stratum (Plot size:) 1. <u>FLEPHANTOPUS CARO UNIANU</u>	5 414	Y	FACU	Tree – Woody plants, excluding woody vines,
- LIPHOAMAND STUD ALCOHA	<u>- 70 - </u>	ার	FAU	approximately 20 ft (6 m) or more in height and 3 in.
2. 1 1 QUI DAMBAR STYRACIFLUA		<u></u>	1740	(7.6 cm) or larger in diameter at breast height (DBH).
3.			· ———	Sapling – Woody plants, excluding woody vines,
4			·	approximately 20 ft (6 m) or more in height and less
5			·	than 3 in. (7.6 cm) DBH.
6	· · · · ·		- 	Shrub – Woody plants, excluding woody vines,
7.				approximately 3 to 20 ft (1 to 6 m) in height.
8	<u> </u>			
9	·			Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardiess of size, and woody
10.			·	plants, except woody vines, less than approximately
11				3 ft (1 m) in height.
12			<u></u> .	Woody vine – All woody vines, regardless of height.
	015	= Total Co	ver	, , , , , , , , , , , , , , , , , , , ,
Woody Vine Stratum (Plot size:)	<u>ـــــــ</u>	1.1		
1. LONICFRA JAPONICA		<u>Y</u>	FAC	
2				
3.				Ì
4	_	:		Hydrophytic
5.				Vegetation Present? Yes No O
	_	= Total Co	ver	700
Damarka, (Individa phata susabasa lasa '				
Remarks: (Include photo numbers here or on a separate	-		10	·
VEHETATION PASSES DI	menthan)	N 4 k	/ 3)\	

Sampling Point:	<u>wcu</u>	10V	14
-----------------	------------	-----	----

Profile Desc	cription: (Describe	to the dept				n the absence of Indicators.)
Depth (inches)	Matrix Color (moist)	 %	Re- Color (moist)	dox Features %	Type ¹ Loc ²	Texture Remarks
	10 YR 4/7	700	171	. <u>ــــــــــــــــــــــــــــــــــــ</u>	مخوش اليسور	SANDY LOAM
D-1 1-18	2514/3	100				ERAVELLY SANDY LOAM
1-10	- 6111. CV	. , , , , .				- CA - CA - CA - CA - CA - CA - CA - CA
·						
			•		·	
						
-		 , -	. *			
·						
			`			
		·				
						2t C D D D At Hatin
'Type: C=C Hydric Soil	oncentration, D=Dep	letion, RM≃	Reduced Matrix,	MS=Masked	Sand Grains.	² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
Histosol		•	Dark Surfa	ce (S7)	• •	2 cm Muck (A10) (MLRA 147)
 	pipedon (A2)				e (S8) (MLRA 147	1 = 1
Black H	istic (A3)				(MLRA 147, 148)	(MLRA 147, 148)
	en Sulfide (A4)			eyed Matrix (F	=2) ,	☐ Piedmont Floodplain Solls (F19) (MLRA 136, 147)
	d Layers (A5) uck (A10) (LRR N)		Depleted N	viaurix (r-s) rk Surface (Fi	6)	Red Parent Material (TF2)
	d Below Dark Surfac	e (A11)		Dark Surface	•	Very Shallow Dark Surface (TF12)
	ark Surface (A12)			pressions (F8		Other (Explain in Remarks)
	Mucky Mineral (S1) (I A 147, 148)	∴ŖR N,	Iron-Mang MLRA		s (F12) (LRR N,	
	Gleyed Matrix (S4)				MLRA 136, 122)	³ Indicators of hydrophytic vegetation and
Sandy F	Redox (S5)		Pledmont	Floodplain So	oils (F19) (MLRA 1 4	
	l Matrix (S6) Layer (if observed):	-			•	unless disturbed or problematic.
Type:	A L'A	•	•			
, ,	ches): <u></u> \(\mathcal{J} \ext{A} \)	•		•	,	Hydric Soil Present? Yes O No
Remarks:						
NO	INDICA	HORS.	05 1	14DRIC	SOILS	OBSERVEO
100	7					
					•	
			•			
					•	
					•	
					•	• .
٠,	-	•			•	
			•			
				•		
				•		,
					•	
					•	
	,	•				
					•	•
` `					•	
			/ .			



Upland data point wcuk017_u facing North



Upland data point wcuk017_u facing South



Upland data point wcuk017_u soil sample

Project/Site: SERI	City/County:	CUMBER LAWN		. achala.
Applicant/Owner:OOMINION	city/county			oling Date: 09/27/20
Investigator(s):	Section Tour	State		mpling Point: WCUK0198
Landform (hillslope, terrace, etc.): FLOODPLA	EN /TOS Local relief (con-	nship, Range:	VA	- the /
Subregion (LRR or MLRA): L2RP	27 36 0U54971.	ave, convex, none):	NA	Slope (%): <u>\mathcal{O} -/</u>
Soil Map Unit Name: PAWLET - WATENER	an Andrea 15 Th 25	Long: 78.37		Datum: <i>NAO 1993</i>
Are climatic / hydrologic conditions on the site to	15 10 ZS	2 SLIPES N	WI classification:	NA
Are climatic / hydrologic conditions on the site typic	al for this time of year? Yes			
Are Vegetation, Soil, or Hydrology _	significantly disturbed?			? Yes No
Are Vegetation, Soil, or Hydrology _	naturally problematic?	(If needed, explain	any answers in Re	emarks.)
SUMMARY OF FINDINGS - Attach site	man shousing assemble			
SUMMARY OF FINDINGS – Attach site	map snowing sampling	point locations, tr	ansects, imp	ortant features, etc.
Hydrophytic Vegetation Present? Yes	✓ No			
Hydric Soil Present? Yes	Is the S	Sampled Area a Wetland?	res/ No	
Wetland Hydrology Present? Yes	✓ No	a wedanu?	res No)
Remarks: POINT ESTABLES MED I				•
AND EN GREEN COLLA		W WELLAND	AT TOO	- OF-Sielty
THE A VALUE OF CICERA PLOS	My Cittin . Use upland	sampling point	wcuk018_u.	
UNT TO		£ "		
PHTO 100-0219 TO 0221	(600)			
HYDROLOGY	(TOEC, N,S)			
		•		
Wetland Hydrology Indicators:		Second	dary Indicators (mi	inimum of two required)
Primary Indicators (minimum of one is required; ch	eck all that apply)		rface Soil Cracks	
Surface Water (A1)	True Aquatic Plants (B14)			Concave Surface (B8)
High Water Table (A2)	_ Hydrogen Sulfide Odor (C1)	Dra	ainage Patterns (E	310)
Saturation (A3)	 Oxidized Rhizospheres on Livi 	ng Roots (C3) Mo	ss Trim Lines (B1	6)
Water Marks (B1)	 Presence of Reduced Iron (C4) Dn	/-Season Water T	
Sediment Deposits (B2)	Recent Iron Reduction in Tilled		ayfish Burrows (Ca	
Drift Deposits (B3)	_ Thin Muck Surface (C7)			Aerial Imagery (C9)
Algal Mat or Crust (B4)	_ Other (Explain in Remarks)	,Stı	inted or Stressed	Plants (D1)
Iron Deposits (B5)			omorphic Position	
Inundation Visible on Aerial Imagery (B7)			allow Aquitard (D3	
Water-Stained Leaves (B9)	<i>.</i>	Mic	crotopographic Re	elief (D4)
Aquatic Fauna (B13)	<u> </u>	- FA	C-Neutral Test (D	5)
Field Observations:	/			
Surface Water Present? Yes No	Depth (inches):	8		
	Depth (inches):			,
Saturation Present? Yes V No	Depth (inches):	Wetland Hydrolog	av Present? Ye	s No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring	a well periol photos			
NA	wen, aeriai priotos, previous insp	pections), if available:		
Remarks:	· · · · · · · · · · · · · · · · · · ·		-	
HYDROLOLY PREMARY	FEO BY-SEEP BU	A WETLAND	ALJO RI	riceror
			77 DJ DZ	i ceturs
OVER BANK FLOW FROM A CA	een creen	· a		4 4
\	T -70	Ø.		
UN				
,				
· · · · · · · · · · · · · · · · · · ·	i de la companya de l			
•			* .	, .
		E		
				l l

A C(2	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: $\int \mathcal{S}(\mathcal{R})$	% Cover Species? Status	Number of Dominant Species
1. <u>/</u> 4		That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant
3		Total Number of Dominant Species Across All Strata: [B]
4		Percent of Dominant Species / (20)
0	1. I s	Percent of Dominant Species / ¿O That Are OBL, FACW, or FAC: (A/B)
6		
	= Total Cover	Prevalence Index worksheet:
50% of total cover:	20% of total cover:	Total % Cover of:Multiply by:
Sapling Stratum (Plot size: 5-1/2)		OBL species x 1 =
4/0		FACW species x 2 =
2		FAC species x 3 =
3		FACU species x 4 =
4		UPL species x 5 =
5		Column Totals: (A) (B)
6		Prevalence Index = B/A =
	= Total Cover	Hydrophytic Vegetation Indicators:
	20% of total cover:	1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size: 512)		∠ 2 - Dominance Test is >50%
1. LIQUEDAMBAR STYRAUEFUA	10 / FAC	3 - Prevalence Index is ≤3.0 ¹
2	·	4 - Morphological Adaptations ¹ (Provide supporting
3		data in Remarks or on a separate sheet)
4		Problematic Hydrophytic Vegetation ¹ (Explain)
5		1
6		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	/ υ = Total Cover	Definitions of Five Vegetation Strata:
50% of total cover: 5	20% of total cover: Z	Definitions of Five vegetation Strata.
Herb Stratum (Plot size: 51R)	20 % of total cover Z	Tree – Woody plants, excluding woody vines,
1. IMPATIENS CAPENSIS	40 Y FAW	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
2. CAPEX GYNANDRA	30 Y OBL	(Constant of the grade in a second of the grade in a gr
3. BOEHMERTA CYLINDRICA	10 N FACW	Sapling – Woody plants, excluding woody vines,
S. Decitorics of Chester	10 10 17100	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
4		
5		Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
b		approximately 0 to 20 it (1 to 0 iii) in fleight.
·		Herb – All herbaceous (non-woody) plants, including
8	,	herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3
9		ft (1 m) in height.
10		Woody vine – All woody vines, regardless of height.
11	67)	Woody vine - All woody vines, regardless of neight.
41.	= Total Cover	
50% of total cover: 40	20% of total cover:	
Woody Vine Stratum (Plot size: 5'2)		•
4 A \\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
2		
3		
4		•
5.		
		Hydrophytic
	= Total Cover	Vometetien
	= Total Cover	Vegetation Present? Ves Ves Ves
50% of total cover:	20% of total cover:	Vegetation Present? Yes No
50% of total cover: Remarks: (Include photo numbers here or on a separate s	20% of total cover:	. /

2. W

(inches)	scription: (Describe	to the dent	th needed to doo	, wa a set 41 1				Sa	mpling Point:	WEUKO
	scription: (Describe Matrix		Red	ov Feature	indicator (or confirm	n the absence	of indicators	5.)	
		Color (moist) % Color (moist) % Type ¹			_Loc ²	Texture	. Dawn I			
0-1	10 YR 2/2	100		_			MUCH		Remarks	
1-10	10 YR 3/2	90	10 YR 6/2	10	D	m	LOAWY	COARIC	[AN/O ~	C >12-
10-20	10 YR 4/1	80	10 YR 71.		0	m	LOAMY		12/00/	STREPA - S
								SAND	wlgravel	
										
		·	· · · · · · · · · · · · · · · · · · ·							
		·							· ·	
	*	· ——	-					·		
		· -				-	· .			
		·							1.4	
Type: C=C	oncentration, D=Dep Indicators:	letion, RM=F	Reduced Matrix, M	S=Masked	Sand Gra	ns.	² Location: PL	=Pore Linina	M=Matrix	
Histosol	maicators.						Indicat	ors for Prob	lematic Hydric	Soils ³ :
	pipedon (A2)		Dark Surface	e (S7)	(00) (77)		2 c	m Muck (A10) (MLRA 147)	
	istic (A3)		Polyvalue Be Thin Dark Su	irface (S9)	:e (S8) (MI (MIPA 14	-RA 147,		ast Prairie Re	edox (A16)	
	en Sulfide (A4)		Loamy Gleye	ed Matrix (F	(m.E.r. 14 (m.E.r. 14	7, 140)	(Die	(MLRA 147,	148) plain Soils (F19)	
	d Layers (A5)		Depleted Ma	trix (F3)	•			MLRA 136, 1		
2 cm with Depleted	ick (A10) (LRR N) d Below Dark Surface	(Λ11)	Redox Dark	Surface (F6	3)		Ve	ry Shallow Da	ark Surface (TF1	2)
Thick Da	ark Surface (A12)	(//11)	Depleted Da Redox Depre	rk Surface	(F7) \		Oth	ner (Explain ir	Remarks)	
Sandy M	lucky Mineral (S1) (L	RR N,	Iron-Mangan	ese Masse	<i>)</i> s (F12) (Li	RRN		*,		•
MLRA	147, 148)		MLRA 13	6)						
_ Sandy B	Sleyed Matrix (S4) Ledox (S5)		Umbric Surfa	ice (F13) (N	/ILRA 136	122)	³ Indic	ators of hydro	phytic vegetatio	n and
Stripped	Matrix (S6)		Ped Parent N	odplain So	ils (F19) (I	VILRA 148	3) wetla	and hydrology	/ must be preser	nt,
estrictive L	ayer (if observed):		Red Parent N	naterial (F2	(IVILRA	127, 147)	unle	ss disturbed of	or problematic.	
Type:			<u>-</u>						*	
Depth (inc	ches): NA						Hydric Soil P	recent? V	es / No	
emarks:									es V No	
		e e					·			
		,								
		SEF.	SHETCH	on	WCU'	H 01.5	}ο U)	DATA	E 012011	
		SEE .	SHETLH	on	WCU'	H 01.8	3e_W	DATA	FORM	
		SEE .	SHETCH	on	WCU'	H 01.8	3e_W	DATA	FORM	
		SEE .	SHETCH	on	WCU	H 01.9	}e_₩	DATA	FORM	
		SEE .	SHETCH	on	WCU'	H 01 9	3e_W	DATA	FORM	
		SEE .	SHETCH	on	WCU'	H 01.9	3e_W	DATA	FORM	
		SEE .	SHETCH	οN	WCU	H 01.9	3e_W	DATA	FORM	
		SEE .	SHETLI	on	WCU'	H 01.9	3e_W	DATA	FORM	
		SEE .	SHETCH	on	WCU'	H 01 9	3e_W	DATA	FORM	
		SEE.	SHETCH	on	W CU'	H 01.9	3e_W	DATA	FORM	
		SEE.	SHETCH	on	WCU	H 01.8	3e_W	DATA	FORM	
		CCC	SUKTI 17	anl	te\c.v	u air				



Wetland data point wcuk019e_w facing North



Wetland data point wcuk019e_w facing South



Wetland data point wcuk019e_w soil sample

Project/Site: SERP City/County: CUMBER LAND Sampling Date: 08/27/20
Applicant/Owner: DOMINION State: VA Sampling Point: WCUKOI
Investigator(s): 5 SWEITZER B. GRIFFITH Section, Township, Range: NA
Landform (hillslope, terrace, etc.): TERRAGE Local relief (concave, convex, none): CONVEX Slope (%): O
Subregion (LRR or MLRA): LRR P Lat: 37.360530596 Long: 78.371630535 Datum: NAD198
Soil Map Unit Name: PALVLET - WATTREE COMPLEX, 15 TO 25 % SLOPES NWI classification: NA
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
And Manufacture and Andrews an
(and a second s
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No
Hydric Soil Present? Yes No V Is the Sampled Area within a Wetland? Yes No
Wetland Hydrology Present? Yes No
Remarks:
PLOT LIES BETWEEN WCUROIS AND WCHROIS SHARED UPLAND
PLOT.
PHOTO 100 -0216 TO 100-0218
760-0218
HYDROLOGY
Wetland Hydrology Indicators: Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10)
Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5) Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3)
Water-Stained Leaves (B9) Microtopographic Relief (D4)
Aquatic Fauna (B13) FAC-Neutral Test (D5)
Field Observations:
Surface Water Present? Yes No Depth (inches):
Water Table Present? Yes No Depth (inches):
Saturation Present? Yes No/ Depth (inches): Wetland Hydrology Present? Yes No/
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
MA
Remarks:
NO INDICATORS OF WETLAND HYDROLOGY OBSERVED.

3.5 20 10 10 7 20% of	Species: Y N N Total Co	FACU FAC FAC FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: (A) (B)
3.5 20 10 10 7 20% of	Y N N	FACU FAC FAC FAC	That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: (A) (B)
7 20% of	= Total Co	FAC FAC FAC	Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: [B]
75 20% of	= Total Co	FAC FAC	Species Across All Strata: 71 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 73 (A/B)
75 7 20% of	= Total Co	FAC	Percent of Dominant Species That Are OBL, FACW, or FAC: 73 (A/B)
7 20% of	= Total Co		(A/B)
7 20% of	= Total Co	ver	(A/B)
7 20% of	= Total Co	ver	
7 20% of	= Total Co	ver	Prevalence Index worksheet:
_	total agree		Total % Cover of: Multiply by:
	iolai cove	r: <u>/5</u> _	OBL species x 1 =
			FACW species x 2 =
15	<u> </u>	FAC	
15	4	FAC	FAC species x 3 =
10	Y	FAL	FACU species x 4 =
5	N		UPL species x 5 =
		7.00	Column Totals: (A) (B)
			Provolonce Index - D/A -
45	= Total Ca		Prevalence Index = B/A =
,			Hydrophytic Vegetation Indicators:
20% of	total cover	:/-	1 - Rapid Test for Hydrophytic Vegetation
			√ 2 - Dominance Test is >50%
	<u> </u>		3 - Prevalence Index is ≤3.0 ¹
10	\ \	FAC	4 - Morphological Adaptations (Provide supporting
10	<u> </u>	FAC	data in Remarks or on a separate sheet)
5	\sim	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
5	N	FACU	
			¹ Indicators of hydric soil and wetland hydrology must
40	= Total Cov	/er	be present, unless disturbed or problematic.
			Definitions of Five Vegetation Strata:
20% of	total cover	:_5_	Tree – Woody plants, excluding woody vines,
		- 4	approximately 20 ft (6 m) or more in height and 3 in
		_	(7.6 cm) or larger in diameter at breast height (DBH).
	<u>y</u>		Sapling – Woody plants, excluding woody vines,
20	<u> </u>	UPL	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
v 200 ²			plants, except woody vines, less than approximately 3
			ft (1 m) in height.
			Woody vine - All woody vines, regardless of height.
100 -	Total Cou	or	
			•
20% of t	total cover:	10	
7 ~	\1		
30	. у	1-AC	
			·
30	Total O		Hydrophytic
_		- 1	Vegetation Present? Yes No
	#5 20% of 20% of 10 10 10 20% of 20% of 30	#5 = Total Cover 20% of total cover 20% of total cover 20% of total cover 20% of total cover 20% of total cover 20% of total cover 30	10

FOR

PLOT

MEET

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

DOMINANCE

HYDROPHYTIC VECETATION

Profile Desc	ription: (Describe	to the dept	h needed to docu	ıment the i	ndicator	or confirn	n the absence o	of indicators.)		
Depth .	Matrix			ox Features						
(inches)	Color (moist)	%	Color (moist)	%	_Type ¹	_Loc²	Texture		narks	
<u>0-11</u>	7.5Y 4/3	700					BRADY low			
11-18	7.5 4 1 3	99	104R5/1		D_{-}	<u>M</u>	5-rady loa	<u>m</u>		
				·						
						•		,		
		• • • • • • • • • • • • • • • • • • • •				. ,			-	
		· 				,				
					-					
	<u> </u>					· — ·				·
					<u> </u>			<u> </u>		
¹ Type: C=Co	oncentration, D=Dep	letion, RM=	Reduced Matrix, N	/IS=Masked	Sand Gr	ains.		.=Pore Lining, M=I		
Hydric Soil I	ndicators:						Indica	tors for Problem	atic Hydric Soils	s³:
Histosol			Dark Surfac					cm Muck (A10) (M		
	ipedon (A2)		Polyvalue B					oast Prairie Redox	(A16)	
Black Hi			Thin Dark S			147, 148)		(MLRA 147, 148) edmont Floodplair	Calle (C10)	
	n Sulfide (A4) I Layers (A5)		Loamy Gley Depleted M		F2)			(MLRA 136, 147)	1 2018 (F 19)	
	ick (A10) (LRR N)		Redox Dark		6)			ery Shallow Dark S	Surface (TF12)	
	Below Dark Surfac	e (A11)	Depleted D					ther (Explain in Re		
	rk Surface (A12)		Redox Dep						• • •	
	lucky Mineral (S1) (I	LRR N,	Iron-Manga		es (F12) (LRR N,				***************************************
	(147, 148)		MLRA 1		381 DA 45	(C 400)	3(2,4)	cators of hydrophy	dia waqatatlari ar	.4
	ileyed Matrix (S4) edox (S5)		Umbric Sur Piedmont F			-		land hydrology m		iu
	Matrix (S6)		Red Parent				-	ess disturbed or pr	•	
Restrictive I	ayer (if observed)			<u> </u>					•	
Type:	$\mathcal{N}A$		·			,*		•		/
Depth (inc	ches): NA		<u> </u>				Hydric Soil i	Present? Yes	No	_
Remarks:				٠.					•	
NO	INDICA	ORS	0F W	ETLA	ND	. 5	0145	OBSER VI	ED.	
	•									
										ļ
						,		•		
		• .	•							ļ
							•			***************************************
	•									
			.1 14	will a	100	. 1	A			1
	SEE 3	HUTCH	W ho	CUPL U	106-	,W	DATA F	OR M		
									•	
			•							
	•									
		•							•	
					٠					
:						•			• •	
,										
									*	
	•									
								•		
			•							



Upland data point wcuk018_u facing North



Upland data point wcuk018_u facing South