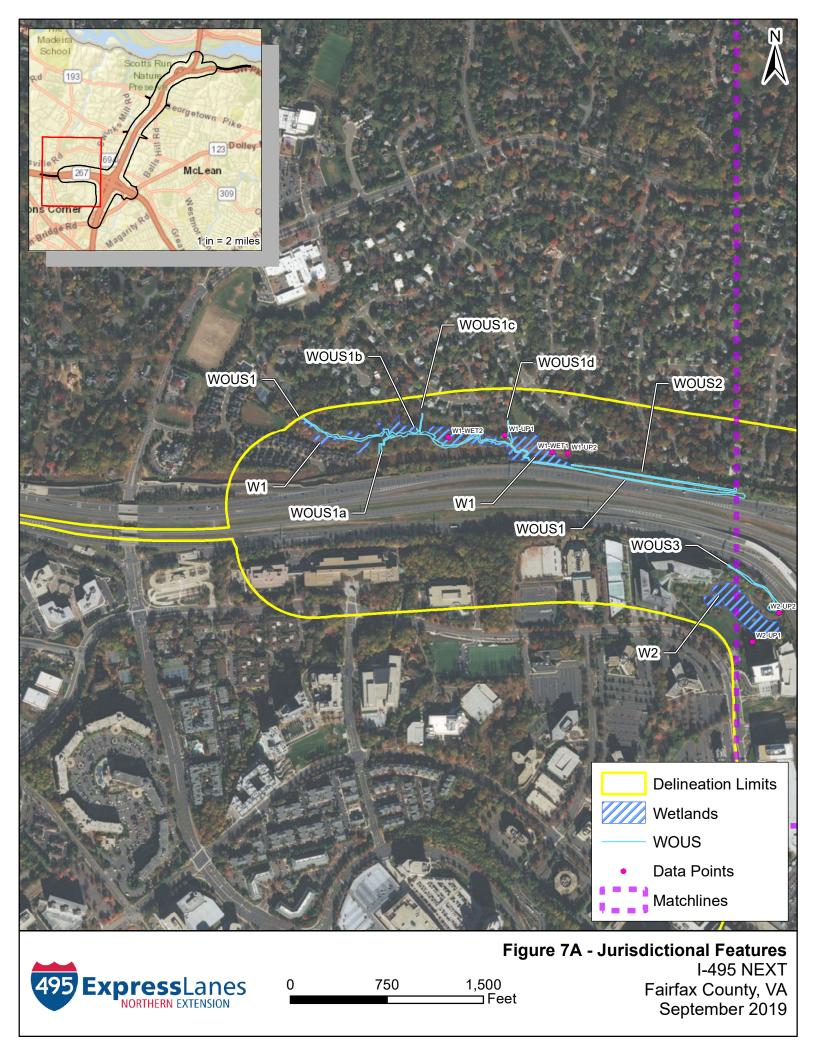


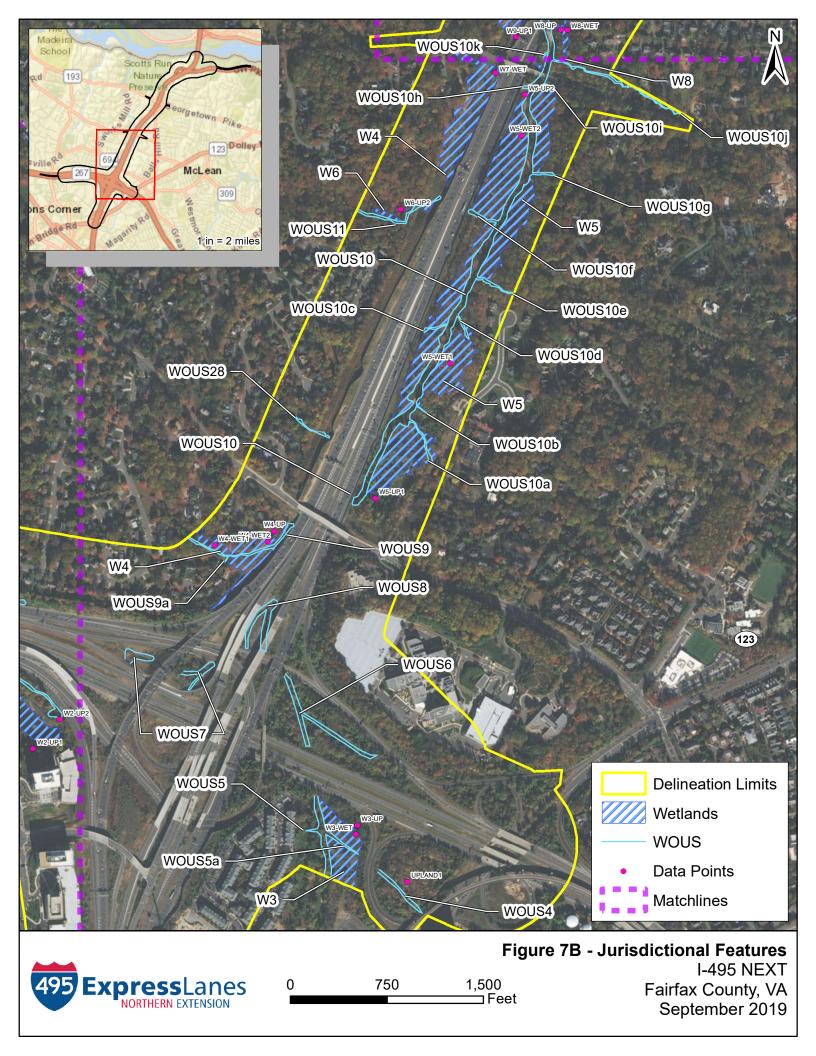
ENVIRONMENTAL ASSESSMENT Natural Resources Technical Report Appendices February 2020

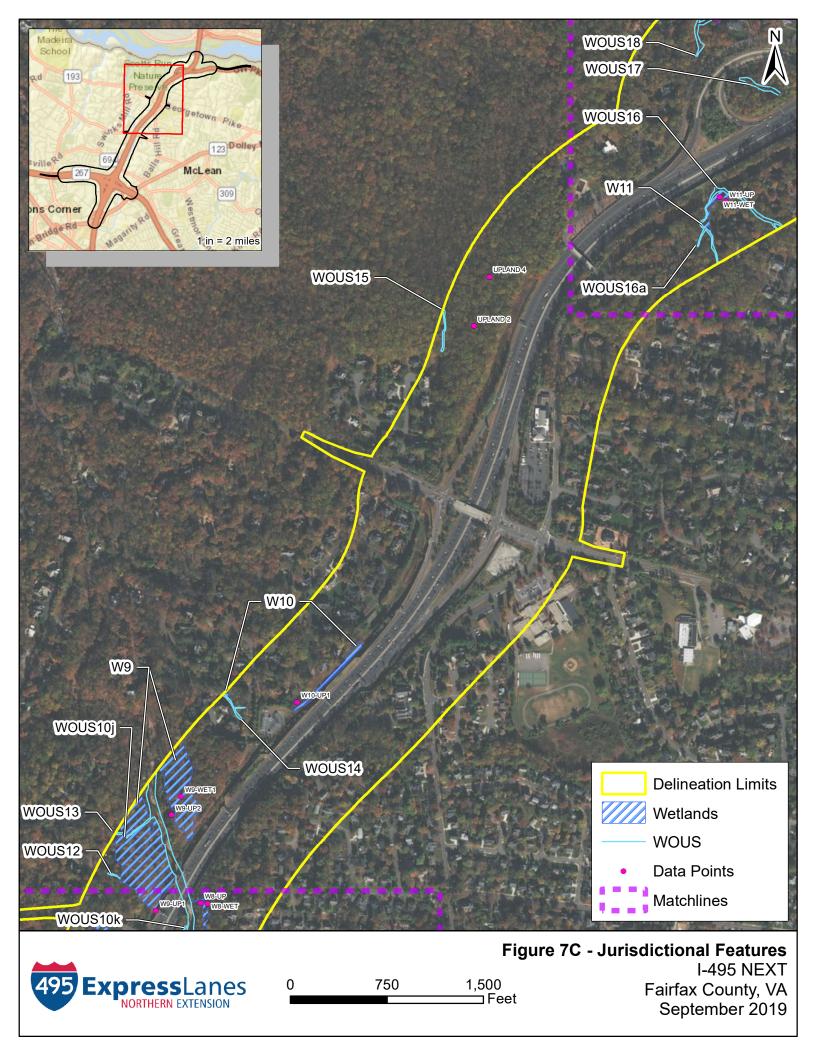


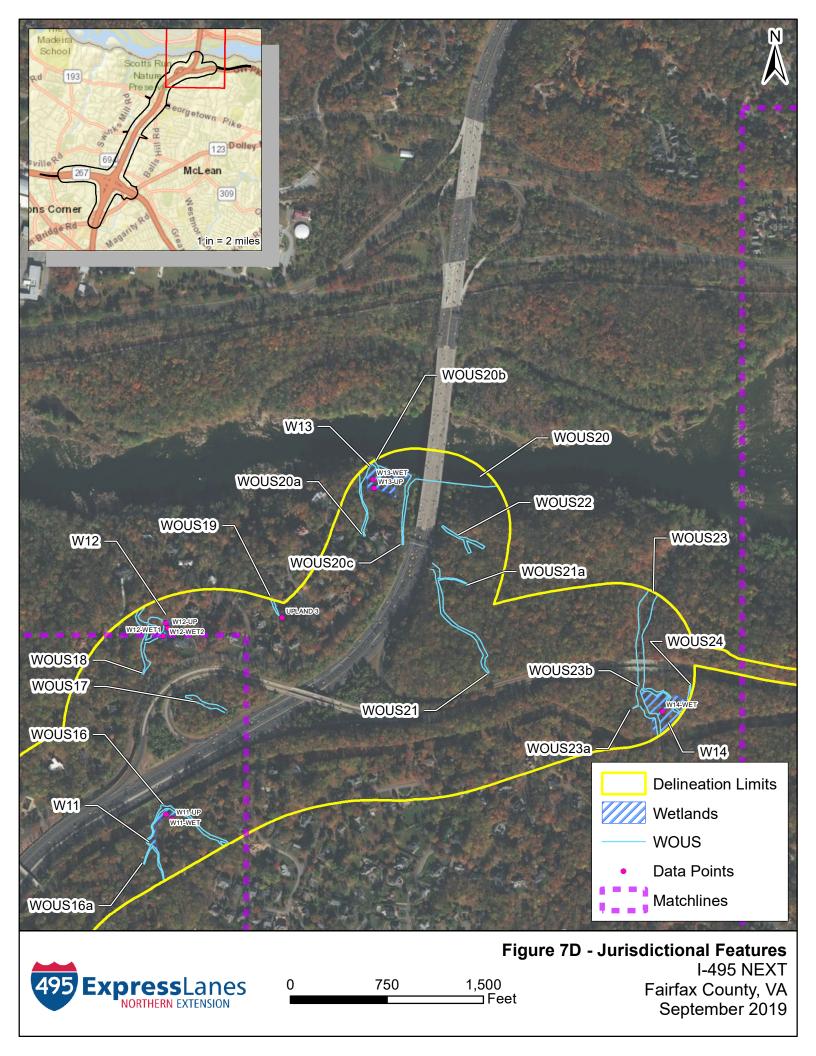
#### **Appendix A: Water Resources Database Results and Mapping**

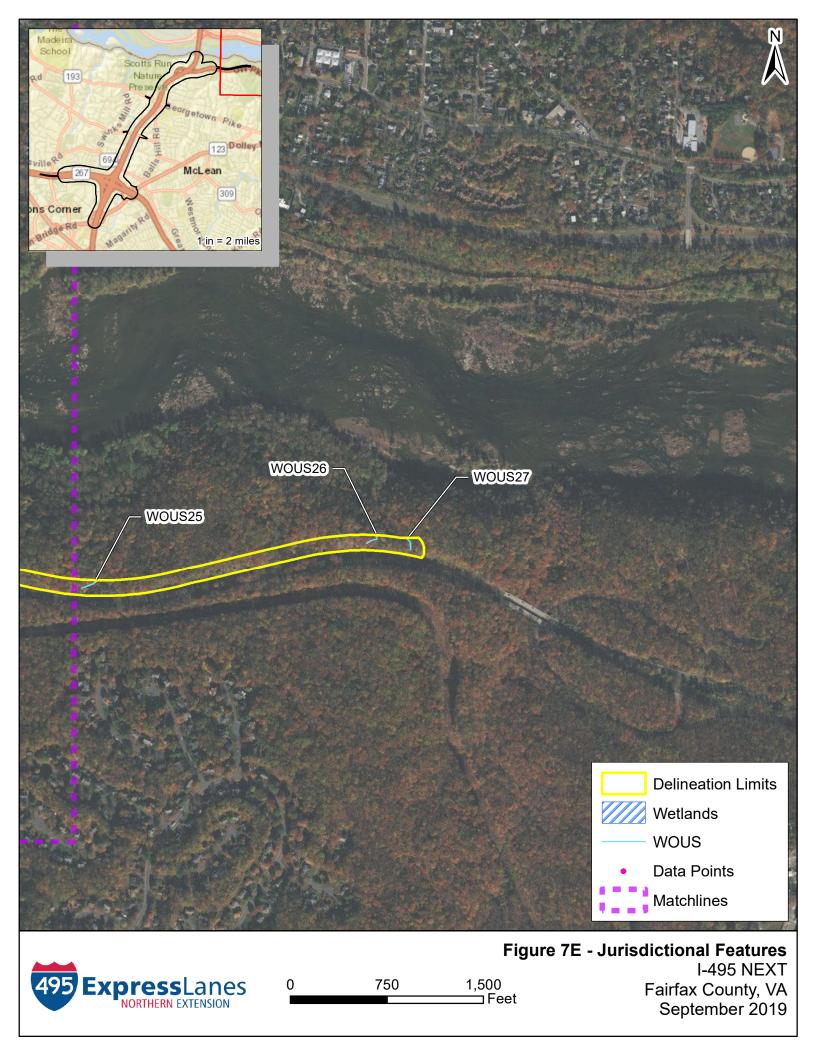
- Waters of the US Maps
- USACE Wetland Dataforms
- USACE USM Dataforms
- Photolog
- VDEQ Water Supply Map











Kimley »Horn WETLAND DETERMINATION DATA FORM

Eastern Mountain and Piedmont

Project:I-405 NEXTSampling Date:9/16/2019Sampling Point:W1-WET1

SITE INFORMATION							
Project # & Site:	I-495 NEXT		City/County:	Fairfax County	,	Date:	9/16/2019
Applicant/Owner:	VDOT		State:	Virginia			
Investigator:	KRJ/SHS		Section/Township/Range:		Sampling Point:	W1-WET1	
Landform:	Level or Near	ly Level	Local Relief:	Concave		Slope (%):	0-2%
Subregion:	LRR P		Lat/Long:	38.935257	-77.221511	Datum:	NAD83
Soil Map Unit Name:	Codorus and	Hatboro soils, 0 to 2 per	cent slopes, occasionally floo	oded		NWI Classification:	N/A
re climatic/hydrologic conditions on the site typical for this time of year?			Yes		INWI Classification.	IN/A	
Are "Normal Circumstances" present?				Yes			
Are Vegetation	No	Soils	No	or Hydrology	No	significantly disturbed?	
Are Vegetation	No	Soils	No	or Hydrology	No	naturally problematic?	
SUMMARY OF FINDINGS							
Hydrophytic Vegetation Present?		Yes					
Hydric soils Present?		Yes		ls th	his Sampling Point v	within a Wetland?	Yes
Wetland Hydrology Present?		Yes					
Remarks:	Point taken b	etween park and intersta	te sound wall in small depres	ssion.			
HYDROLOGY							
Wetland Hydrology Indicators:					Secondary Indica	tors :	
Primary Indicators :					Surface Soil Crack	s (B6)	
Surface Water (A1)		Water-stained Leaves	s (B9)		Sparsely Vegetated	d Concave Surface (B8)	
High Water Table (A2)	Х	Aquatic Fauna (B13)			Drainage Patterns	(B10)	
Saturation (A3)	Х	Marl Deposits (B 15)			Moss Trim Lines (E	316)	
Water Marks (B1)		Hydrogen Sulfide Odd	or (C1)		Dry-Season Water	Table (C2)	
Sediment Deposits (B2)		Oxidized Rhizosphere	es on Living Roots (C3)		Crayfish Burrows (	C8)	
Drift Deposits (B3)		Presence of Reduced	Iron (C4)		Saturation Visible of	on Aerial Imagery (C9)	
Algal Mats or Crust (B4)		Recent Iron Reduction	n in Tilled Soils (C6)		Geomorphic Position	on (D2)	Х
Iron Deposits (B5)		Thin Muck Surface (C	7)		Shallow Aquitard (I	03)	
Inundation Visible on Aerial Imagery (B7)		Other (Explain in Rem	narks)		FAC-Neutral Test (	D5)	Х
Field Observations:							
Surface Water Present?	No	Depth (inches):					
Water Table Present?	Yes	Depth (inches):	1	2	Wetland Hydrolog	gy Present?	Yes
Saturation Present?	Yes	Depth (inches):		8			
Describe Recorded Data (Stream gauge, mo previous inspection):	onitoring well, ae	erial photograph,					•
Remarks:							

VEGETATION					
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
N/A				# Dominant Species OBL, FACW, FAC:	1
				# of Dominant Species Across All Strata:	1
				Percent Dominant Species OBL, FACW, FAC:	100
	(	0 = Total Cover			
	50% of Total C	Cover =		0	
50/20 Thresholds:	20% of Total C	Cover =		0	
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status		
N/A					
	(	) = Total Cover			
	50% of Total C	Cover =		0	
50/20 Thresholds:	20% of Total C	Cover =		0	

Project:I-405 NEXTSampling Date:9/16/2019Sampling Point:W1-WET1

WETLAND DETERMINATION DATA FORM

Eastern Mountain and Piedmont

Shrub Stratum	Absolute %	Dominant Species?	Indicator Status						
	Cover	Dominant Opecies:			egetation Indicators	:			
√/A				1 - Rapid Test			No		
				2 - Dominance			Yes		
				3 - Prevalence I					
				4 - Problematic	Hydrophytic Vegetati	on	No		
				_					
		= Total Cover							
	50% of Total C			0					
50/20 Thresholds:	20% of Total C	over =		0					
lerb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of V	Vegetation Strata:				
_eersia oryzoides	60	yes	OBL	Tree:	20 ft or more in heig	ht, 3 in or larger diameter	at DBH		
Zizaniopsis miliacea	10	no	OBL	Sapling:	20 ft or more in heig	ht, less than 3 in DBH			
Carex typhina	10	no	FACW	Shrub:	3-20 ft in height				
				Herb:	less than 3 ft in heig	ht			
				Vine:	all woody vines				
	80	= Total Cover							
	50% of Total C	over =	4	0					
50/20 Thresholds:	20% of Total C	over =	1	6					
Voody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status						
V/A		1	1	-					
w/ t		<u> </u>		-					
				-					
				-					
		Total Course							
		= Total Cover			hudronhutia Vanstat	ion Brocont:	V		
	50% of Total C			0 F	lydrophytic Vegetat	ion Present:	Yes		
50/20 Thresholds:	20% of Total C	over =		0					
Remarks:		Prevalence Index was	not used in determining pre	sence of hydrophy	tic vegetation.				
SOILS									
Profile Description:									
Depth	Matrix		Redox Features						
nches	Color (Moist)	%	Color (Moist)	%	Туре	Loc	Toxturo		
)-3	10YR 3/1				Type	LUC	Texture		
-8		100			Type		Texture Sandy loam		
	10YR 4/1		7.5YR 5/8		C	M	Sandy loam		
-18	10YR 4/1 10YR 5/1	70		30					
		70 80	7.5YR 5/8	30 20	С	M	Sandy loam Sandy clay loan		
	10YR 5/1	70 80	7.5YR 5/8 10YR 5/8	30 20	C C	M M	Sandy loam Sandy clay loan Clay loam		
	10YR 5/1	70 80	7.5YR 5/8 10YR 5/8	30 20	C C	M M	Sandy loam Sandy clay loan Clay loam		
8-24	10YR 5/1 10YR 6/1	70 80 60	7.5YR 5/8 10YR 5/8 10YR 4/8	30 20 40	C C C	M M	Sandy loam Sandy clay loan Clay loam		
8-24	10YR 5/1 10YR 6/1	70 80 60	7.5YR 5/8 10YR 5/8 10YR 4/8	30 20 40	C C C	M M	Sandy loam Sandy clay loan Clay loam		
8-24 ype: C=Concentration, D=Depletion, RM lydric Soil Indicators:	10YR 5/1 10YR 6/1	70 80 60 CS=Cover or Coated S	7.5YR 5/8 10YR 5/8 10YR 4/8	30 20 40	C C C C C C C C C C C C C C C C C C C	M M M	Sandy loam Sandy clay loan Clay loam		
8-24 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1)	10YR 5/1 10YR 6/1	70 80 60 CS=Cover or Coated S Sandy Redox (S5)	7.5YR 5/8 10YR 5/8 10YR 4/8	30 20 40	C C C ix Umbric Surface (F1:	M M M	Sandy loam Sandy clay loan Clay loam		
8-24 ype: C=Concentration, D=Depletion, RM <b>lydric Soil Indicators:</b> listosol (A1) listic Epipedon (A2)	10YR 5/1 10YR 6/1	70 80 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6)	7.5YR 5/8 10YR 5/8 10YR 4/8	30 20 40	C C C Umbric Surface (F1: Delta Ochric (F17)	M M M	Sandy loam Sandy clay loar Clay loam		
8-24 ype: C=Concentration, D=Depletion, RM ydric Soil Indicators: tistosol (A1) tistic Epipedon (A2) slack Histic (A3)	10YR 5/1 10YR 6/1	70 80 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7)	7.5YR 5/8 10YR 5/8 10YR 4/8 and Grains; Location: PL=P	30 20 40	C C C Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F18	M M M 3)	Sandy loam Sandy clay loan Clay loam		
8-24 ype: C=Concentration, D=Depletion, RM ydric Soil Indicators: tistosol (A1) tistic Epipedon (A2) slack Histic (A3) tydrogen Sulfide (A4)	10YR 5/1 10YR 6/1	70 80 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa	7.5YR 5/8 10YR 5/8 10YR 4/8 and Grains; Location: PL=P	30 20 40	C C C Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F18 Piedmont Floodplair	M M M 3) Soils (F19)	Sandy loam Sandy clay loan Clay loam		
8-24 ype: C=Concentration, D=Depletion, RM <b>lydric Soil Indicators:</b> tistosol (A1) tistic Epipedon (A2) slack Histic (A3) tydrogen Sulfide (A4) stratified Layers (A5)	10YR 5/1 10YR 6/1	70 80 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5)	7.5YR 5/8 10YR 5/8 10YR 4/8 and Grains; Location: PL=P ace (S8)	30 20 40	C C C Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F18 Piedmont Floodplair Anomalous Bright Lo	M M M 3) Soils (F19)	Sandy loam Sandy clay loan Clay loam		
8-24 ype: C=Concentration, D=Depletion, RM <b>lydric Soil Indicators:</b> tistosol (A1) tistic Epipedon (A2) silack Histic (A3) tydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6)	10YR 5/1 10YR 6/1	70 80 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral	7.5YR 5/8 10YR 5/8 10YR 4/8 and Grains; Location: PL=P ace (S8) 9) (F1)	30 20 40	C C C Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright Lo 1 cm Muck (A9)	M M M 3) Soils (F19)	Sandy loam Sandy clay loar Clay loam		
8-24 ype: C=Concentration, D=Depletion, RM <b>lydric Soil Indicators:</b> distosol (A1) distic Epipedon (A2) Black Histic (A3) dydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) is om Mucky Mineral (A7)	10YR 5/1 10YR 6/1	70 80 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral Loamy Gleyed Matrix	7.5YR 5/8 10YR 5/8 10YR 4/8 and Grains; Location: PL=P ace (S8) 9) (F1)	30 20 40 bore Lining, M=Matr	C C C C Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright Lo 1 cm Muck (A9) 2 cm Muck (A10)	M M M 3) Soils (F19) Deamy Soils (F20)	Sandy loam Sandy clay loar Clay loam		
8-24 ype: C=Concentration, D=Depletion, RM <b>lydric Soil Indicators:</b> distosol (A1) distic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7)	10YR 5/1 10YR 6/1	70 80 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral	7.5YR 5/8 10YR 5/8 10YR 4/8 and Grains; Location: PL=P ace (S8) 9) (F1)	30 20 40	C C C C Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright Lo 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F18	M M M M Soils (F19) Deamy Soils (F20)	Sandy loam Sandy clay loar Clay loam		
8-24 ype: C=Concentration, D=Depletion, RM <b>lydric Soil Indicators:</b> distosol (A1) distic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) is cm Mucky Mineral (A7) <i>fuck Presence (A8)</i>	10YR 5/1 10YR 6/1	70 80 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral Loamy Gleyed Matrix	7.5YR 5/8 10YR 5/8 10YR 4/8 and Grains; Location: PL=P ace (S8) 9) (F1) (F2)	30 20 40 bore Lining, M=Matr	C C C C Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F17) Reduced Vertic (F18 Piedmont Floodplair Anomalous Bright Lo 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F18 Piedmont Floodplair	M M M M Soils (F19) Soils (F20) B Soils (F19)	Sandy loam Sandy clay loan Clay loam		
8-24 ype: C=Concentration, D=Depletion, RM <b>lydric Soil Indicators:</b> listosol (A1) listic Epipedon (A2) vidack Histic (A3) lydrogen Sulfide (A4) stratified Layers (A5) Organic Bodies (A6) cm Mucky Mineral (A7) Muck Presence (A8) cm Muck (A9)	10YR 5/1 10YR 6/1	70 80 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3)	7.5YR 5/8 10YR 5/8 10YR 4/8 and Grains; Location: PL=P ace (S8) 9) (F1) (F2) F6)	30 20 40 bore Lining, M=Matr	C C C C Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright Lo 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F18 Piedmont Floodplair Anomalous Bright Lo	M M M M M Soils (F19) Soils (F19) Soils (F19) Soils (F19) Soils (F19) Soils (F19) Soils (F19) Soils (F19)	Sandy loam Sandy clay loar Clay loam		
8-24 ype: C=Concentration, D=Depletion, RM <b>lydric Soil Indicators:</b> listosol (A1) listic Epipedon (A2) black Histic (A3) lydrogen Sulfide (A4) Btratified Layers (A5) Organic Bodies (A6) cm Mucky Mineral (A7) Muck Presence (A8) cm Muck (A9) Depleted Below Dark Surface (A11)	10YR 5/1 10YR 6/1	70 80 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface (	7.5YR 5/8 10YR 5/8 10YR 4/8 and Grains; Location: PL=P (F1) (F2) F6) e (F7)	and a second sec	C C C C Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F17) Reduced Vertic (F18 Piedmont Floodplair Anomalous Bright Lo 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F18 Piedmont Floodplair	M M M M M Soils (F19) Soils (F19) Soils (F19) Soils (F19) Soils (F19) Soils (F19) Soils (F19) Soils (F19)	Sandy loam Sandy clay loar Clay loam		
8-24 ype: C=Concentration, D=Depletion, RM ydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) is cm Mucky Mineral (A7) Muck Presence (A8) cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12)	10YR 5/1 10YR 6/1	70 80 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface (	7.5YR 5/8 10YR 5/8 10YR 4/8 and Grains; Location: PL=P (F1) (F2) F6) e (F7)	and a second sec	C C C C Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright Lo 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F18 Piedmont Floodplair Anomalous Bright Lo	M M M M M Soils (F19) Soils (F19) Soils (F19) Soils (F20) Soils (F19) Soils (F19) Soils (F19) Soils (F19) Soils (F19) Soils (F19)	Sandy loam Sandy clay loan Clay loam		
3-18 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1)	10YR 5/1 10YR 6/1	70 80 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S8 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface (	7.5YR 5/8 10YR 5/8 10YR 4/8 and Grains; Location: PL=P (F1) (F1) (F2) F6) e (F7) F8)	and a second sec	C C C C Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F17) Reduced Vertic (F18 Piedmont Floodplair Anomalous Bright Lo 2 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F18 Piedmont Floodplair Anomalous Bright Lo Red Parent Material	M M M M M Soils (F19) Soils (F19) Soils (F19) Soils (F20) Soils (F19) Soils (F19) Soils (F19) Soils (F19) Soils (F19) Soils (F19)	Sandy loam Sandy clay loan Clay loam		

WETLAND DETERMINATION DATA FORM Eastern Mountain and Piedmont Project:I-405 NEXTSampling Date:8/7/2018Sampling Point:W1-WET2

SITE INFORMATION -495 NEXT City/County: Fairfax County 8/7/2018 Project # & Site: Date: Applicant/Owner: VDOT State: Virginia Sampling Point: W1-WET2 Scott Shifflett, Laura Cooper, Kyle Investigator: Section/Township/Range: Haynes, Evan Fowler, Emily Onufer Hillslope Local Relief: Concave andform: Slope (%): Subregion: I RR P Lat/Long: 38.9355 -77.2225 Datum: NAD83 Soil Map Unit Name: Codorus and Hatboro soils, 0 to 2 percent slopes, occasionally flooded PFO NWI Classification: Are climatic/hydrologic conditions on the site typical for this time of year? Yes Are "Normal Circumstances" present? Yes Are Vegetation No Soils No or Hydrology No significantly disturbed? Are Vegetation No Soils No or Hydrology No naturally problematic? SUMMARY OF FINDINGS Hydrophytic Vegetation Present? Yes Hydric soils Present? Yes Is this Sampling Point within a Wetland? Yes Wetland Hydrology Present? Yes Remarks: Point taken between park and interstate sound wall in small depression. HYDROLOGY Wetland Hydrology Indicators: Secondary Indicators Surface Soil Cracks (B6) Primary Indicators Sparsely Vegetated Concave Surface (B8) Surface Water (A1) Water-stained Leaves (B9) Х Aquatic Fauna (B13) Drainage Patterns (B10) High Water Table (A2) Saturation (A3) Marl Deposits (B 15) Moss Trim Lines (B16) Water Marks (B1) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Crayfish Burrows (C8) Sediment Deposits (B2) Presence of Reduced Iron (C4) Drift Deposits (B3) Х Saturation Visible on Aerial Imagery (C9) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Algal Mats or Crust (B4) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Other (Explain in Remarks) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) X Field Observations: Surface Water Present? No Depth (inches): Wetland Hydrology Present? Water Table Present? Yes Depth (inches): 12 Yes Depth (inches): Saturation Present? 8 Yes Describe Recorded Data (Stream gauge, monitoring well, aerial photograph, previous inspection): Remarks:

VEGETATION					
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
Acer rubrum	60	) yes	FAC	# Dominant Species OBL, FACW, FAC:	5
				# of Dominant Species Across All Strata:	5
				Percent Dominant Species OBL, FACW, FAC:	100
	60	= Total Cover			
	50% of Total C	Cover =	30	0	
50/20 Thresholds:	20% of Total C	Cover =	1:	2	
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status		
Liquidambar styraciflua	10	) yes	FAC		
Acer rubrum	5	i yes	FAC		
	15	= Total Cover			
	50% of Total C	Cover =	7.5	5	
50/20 Thresholds:	20% of Total C	Cover =		3	

Project:I-405 NEXTSampling Date:8/7/2018Sampling Point:W1-WET2

WETLAND DETERMINATION DATA FORM

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic V	egetation Indicators	3:	
indera benzoin		yes	FAC	1 - Rapid Test	- <b>-</b>		No
				2 - Dominance	Test is >50%		Yes
				3 - Prevalence			
					Hydrophytic Vegetati	ion	No
				1 1 100iointatio	rija oprijao rogotaa		
	20	= Total Cover					
	50% of Total C	over =		10			
50/20 Thresholds:	20% of Total C	over =		4			
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of	Vegetation Strata:		
Microstegium vimineum	70	yes	FAC	Tree:	20 ft or more in heig	ht, 3 in or larger diameter at	DBH
Osmundastrum cinnamomeum	10	no	FACW	Sapling:		ht, less than 3 in DBH	
Lindera benzoin	10	no	FAC	Shrub:	3-20 ft in height		
Smilax rotundifolia	5	no	FAC	Herb:	less than 3 ft in heig	ht	
Festuca rubra	5	no	FACU	Vine:	all woody vines		
	100	= Total Cover					
	50% of Total C	over =		50			
50/20 Thresholds: 20% of Tot		over =		20			
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status				
N/A							
	0	= Total Cover					
	50% of Total C	over =		0	Hydrophytic Vegetat	tion Present:	Yes
50/20 Thresholds:	20% of Total C	over =		0			
Remarks:		Prevalence Index was	not used in determining p	esence of hydrophy	tic vegetation.		
SOILS							
Profile Description:							
Depth	Matrix		Redox Features				Toxturo
Inches	Color (Moist)	%	Color (Moist)	%	Туре	Loc	Texture
0-3	10YR 4/3	100					Sandy clay loa
3-14	10YR 4/1	80	10YR 4/6	20	C	М	Sandy clay loa
Type: C=Concentration, D=Depletion, F	RM = Reduced Matrix,	CS=Cover or Coated S	and Grains; Location: PL=	Pore Lining, M=Mat	rix		
Hydric Soil Indicators:	·						
Histosol (A1)		Sandy Redox (S5)			Umbric Surface (F1	3)	

nyune son mulcators.					
Histosol (A1)	Sandy Redox (S5)		Umbric Surface (F13	)	
Histic Epipedon (A2)	Stripped Matrix (S6)		Delta Ochric (F17)		
Black Histic (A3)	Dark Surface (S7)		Reduced Vertic (F18	)	
Hydrogen Sulfide (A4)	Polyvalue Below Surface (S8)		Piedmont Floodplain	Soils (F19)	
Stratified Layers (A5)	Thin Dark Surface (S9)		Anomalous Bright Lo	amy Soils (F20)	
Organic Bodies (A6)	Loamy Mucky Mineral (F1)		1 cm Muck (A9)		
5 cm Mucky Mineral (A7)	Loamy Gleyed Matrix (F2)		2 cm Muck (A10)		
Muck Presence (A8)	Depleted Matrix (F3)	Х	Reduced Vertic (F18	)	
1 cm Muck (A9)	Redox Dark Surface (F6)		Piedmont Floodplain	Soils (F19)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)		Anomalous Bright Lo	amy Soils	
Thick Dark Surface (A12)	Redox Depressions (F8)		Red Parent Material	(TF2)	
Coast Prairie Redox (A16)	Marl (F10)		Very Shallow Dark S	urface (TF12)	
Sandy Mucky Mineral (S1)	Depleted Ochric (F11)		Other (Explain in		
Sandy Gleyed Matrix (S4)	Iron-Manganese Masses (F12)		Remarks)		
Restrictive Layer (if observed):					
Туре:			Hydric Soils Pre	esent:	Yes
Depth (inches):					

WETLAND DETERMINATION DATA FORM

SITE INFORMATION
Project # & Site:

Applicant/Owner:

Investigator:

Landform:

Project: I-495 NEXT Sampling Date: 9/16/2019 Sampling Point: W1-UP1

9/16/2019

W1-UP1

2-4%

Eastern Mountain and Piedmont I-495 NEXT City/County: Fairfax County Date: VDOT Virginia State: Sampling Point: KRJ/SHS Section/Township/Range: Hillslope Local Relief: Convex Slope (%): LRR P Lat/Long: 38.935638 -77.222794 Datum:

Subregion: NAD83 Wheaton-Sumerduck complex, 2 to 7 percent slopes Soil Map Unit Name: NWI Classification: N/A Are climatic/hydrologic conditions on the site typical for this time of year? Yes Are "Normal Circumstances" present? Yes No Are Vegetation No Soils or Hydrology No significantly disturbed? naturally problematic? Are Vegetation No Soils No or Hydrology No 

SUMMARY OF FINDINGS					
Hydrophytic Vegetation Present?		Yes			
Hydric soils Present?		No		Is this Sampling Point within a Wetland?	No
Wetland Hydrology Present?		No			
Remarks:	Point taken jus	t outside and upslope c	of existing wetland line. Adjace	nt to stream.	

HYDROLOGY					
Wetland Hydrology Indicators:				Secondary Indicators :	
Primary Indicators :				Surface Soil Cracks (B6)	
Surface Water (A1)		Water-stained Leave	es (B9)	Sparsely Vegetated Concave Surface (B8)	
High Water Table (A2)		Aquatic Fauna (B13)	)	Drainage Patterns (B10)	
Saturation (A3)		Marl Deposits (B 15)	)	Moss Trim Lines (B16)	
Water Marks (B1)		Hydrogen Sulfide Od	dor (C1)	Dry-Season Water Table (C2)	
Sediment Deposits (B2)		Oxidized Rhizospher	res on Living Roots (C3)	Crayfish Burrows (C8)	
Drift Deposits (B3)		Presence of Reduce	ed Iron (C4)	Saturation Visible on Aerial Imagery (C9)	
Algal Mats or Crust (B4)		Recent Iron Reduction	on in Tilled Soils (C6)	Geomorphic Position (D2)	
Iron Deposits (B5)		Thin Muck Surface (	C7)	Shallow Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)		Other (Explain in Re	marks)	FAC-Neutral Test (D5)	
Field Observations:					
Surface Water Present?	No	Depth (inches):		· · ·	
Water Table Present?	No	Depth (inches):		Wetland Hydrology Present?	No
Saturation Present?	No	Depth (inches):			
Describe Recorded Data (Stream gauge, m previous inspection):	ionitoring we	ll, aerial photograph,			
Remarks:					

VEGETATION					
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
Acer rubrum	30	yes	FAC	# Dominant Species OBL, FACW, FAC:	3
Prunus avium	5	no	UPL	# of Dominant Species Across All Strata:	4
				Percent Dominant Species OBL, FACW, FAC:	75
	35	= Total Cover			
	50% of Total C	over =	18		
50/20 Thresholds:	20% of Total C	over =	7		
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status		
N/A					
	C	= Total Cover			
	50% of Total C	cover =	0	]	
50/20 Thresholds:	20% of Total C	cover =	0		

Project: I-495 NEXT Sampling Date: 9/16/2019 Sampling Point: W1-UP1

WETLAND DETERMINATION DATA FORM

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Ve	egetation Indicators	Hydrophytic Vegetation Indicators:			
indera benzoin		yes	FAC	1 - Rapid Test			No		
	-	,	-	2 - Dominance	Test is >50%		Yes		
				3 - Prevalence I					
					Hydrophytic Vegetati	on	No		
				1 1 Toblomatio	rijaroprijao rogotaa				
	15	= Total Cover							
	50% of Total C		7.5	5					
50/20 Thresholds:	20% of Total C		3						
	Absolute %								
Herb Stratum	Cover	Dominant Species?	Indicator Status	Definitions of V	egetation Strata:				
Microstegium vimineum		yes	FAC	Tree:		ht, 3 in or larger diamet	er at DBH		
· · ·		,		Sapling:	1	ht, less than 3 in DBH			
				Shrub:	3-20 ft in height	,			
				Herb:	less than 3 ft in heig	ht			
				Vine:	all woody vines				
	60	= Total Cover		vino.					
	50% of Total C		30	)					
50/20 Thresholds:	20% of Total C		12						
	Absolute %								
Woody Vine Stratum	Cover	Dominant Species?	Indicator Status						
Rubus phoenicolasius		yes	FACU	1					
				1					
				1					
				1					
				1					
	40	= Total Cover							
	50% of Total C		20		lydrophytic Vegetat	ion Present:	Yes		
			6		iyaropiiyae vegetat	ion resent.	163		
FO/OO Thus shalles									
SOILS	20% of Total C		not used in determining pres	ence of hydrophy	tic vegetation.				
Remarks: SOILS Profile Description:			not used in determining pres	ence of hydrophy	tic vegetation.				
Remarks: SOILS Profile Description: Depth	Matrix	Prevalence Index was	not used in determining pres		-	loc	Texture		
Remarks: SOILS Profile Description: Depth Inches	Matrix Color (Moist)	Prevalence Index was	not used in determining pres Redox Features Color (Moist)	%	Туре	Loc			
Remarks: SOILS Profile Description: Depth Inches	Matrix	Prevalence Index was	not used in determining pres	%	-	Loc M	Texture Sandy loam		
Remarks: SOILS Profile Description: Depth Inches	Matrix Color (Moist)	Prevalence Index was	not used in determining pres Redox Features Color (Moist)	%	Туре				
Remarks: SOILS Profile Description: Depth Inches	Matrix Color (Moist)	Prevalence Index was	not used in determining pres Redox Features Color (Moist)	%	Туре				
Remarks: SOILS Profile Description: Depth Inches	Matrix Color (Moist)	Prevalence Index was	not used in determining pres Redox Features Color (Moist)	%	Туре				
Remarks: SOILS Profile Description: Depth	Matrix Color (Moist)	Prevalence Index was	not used in determining pres Redox Features Color (Moist)	%	Туре				
Remarks: SOILS Profile Description: Depth Inches 0-24+	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was	Redox Features Color (Moist) 5YR 5/8	%   10	Type C				
Remarks: SOILS Profile Description: Depth nches D-24+ Type: C=Concentration, D=Depletion, RM	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was	Redox Features Color (Moist) 5YR 5/8	%   10	Type C				
Remarks: SOILS Profile Description: Depth Inches 0-24+ Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators:	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was	Redox Features Color (Moist) 5YR 5/8	%   10	Type C	M 			
Remarks: SOILS Profile Description: Depth nches D-24+ Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1)	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was	Redox Features Color (Moist) 5YR 5/8	%   10	Type C ix Umbric Surface (F1:	M 			
Remarks: SOILS Profile Description: Depth Inches 0-24+ Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2)	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 90 90 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6)	Redox Features Color (Moist) 5YR 5/8	%   10	Type C ix Umbric Surface (F1: Delta Ochric (F17)	M 			
Remarks: SOILS Profile Description: Depth nches D-24+ Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3)	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 90 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7)	Redox Features Color (Moist) 5YR 5/8	%   10	Type C Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F18)	M 			
Remarks: SOILS Profile Description: Depth Inches 0-24+ Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4)	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 90 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa	Redox Features Color (Moist) 5YR 5/8 and Grains; Location: PL=Po	%   10	Type C Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F18 Piedmont Floodplair	M			
Remarks: SOILS Profile Description: Depth Inches D-24+ Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5)	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 90 90 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5)	Redox Features Color (Moist) 5YR 5/8 and Grains; Location: PL=Po	%   10	Type C C ix Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F18 Piedmont Floodplair Anomalous Bright Lo	M			
Remarks: SOILS Profile Description: Depth nches D-24+ Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6)	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 90 90 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral	Redox Features Color (Moist) 5YR 5/8 and Grains; Location: PL=Po Redox Features Color (Moist) 5YR 5/8 Color (Moist) Color	%   10	Type C C ix Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F18 Piedmont Floodplair Anomalous Bright Lo 1 cm Muck (A9)	M			
Remarks: SOILS Profile Description: Depth nches D-24+ Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7)	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 90 90 90 90 90 90 90 90 90 90 90 90 90	Redox Features Color (Moist) 5YR 5/8 and Grains; Location: PL=Po Redox Features Color (Moist) 5YR 5/8 Color (Moist) Color	%   10	Type C Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F18 Piedmont Floodplair Anomalous Bright Lo 1 cm Muck (A9) 2 cm Muck (A10)	M 			
Remarks: SOILS Profile Description: Depth nches D-24+ Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7)	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 90 90 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral	Redox Features Color (Moist) 5YR 5/8 and Grains; Location: PL=Po Redox Features Color (Moist) 5YR 5/8 Color (Moist) Color	%   10	Type C C ix Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F18 Piedmont Floodplair Anomalous Bright Lo 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F18	M 			
Remarks: SOILS Profile Description: Depth nches D-24+ Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8)	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 90 90 90 90 90 90 90 90 90 90 90 90 90	Redox Features Color (Moist) 5YR 5/8 and Grains; Location: PL=Po ace (S8) (F1) (F2)	%   10	Type C C Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F17) Reduced Vertic (F17) Anomalous Bright Lu 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F18 Piedmont Floodplair	M 			
Remarks: SOILS Profile Description: Depth nches D-24+ Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9)	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 90 90 90 90 90 90 90 90 90 90 90 90 90	Redox Features Color (Moist) 5YR 5/8 	%   10	Type C C Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F17) Reduced Vertic (F17 Piedmont Floodplair Anomalous Bright Lo 2 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F18 Piedmont Floodplair Anomalous Bright Lo	M			
Remarks: SOILS Profile Description: Depth nches D-24+ Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) I cm Muck (A9) Depleted Below Dark Surface (A11)	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 90 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S2 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface (	Redox Features Color (Moist) 5YR 5/8 	%   10	Type C C Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright Lo 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F18 Piedmont Floodplair Anomalous Bright Lo Red Parent Material	M A B B B B C C C C C C C C C C C C C			
Remarks: SOILS Profile Description: Depth nches D-24+ Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12)	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 90 90 90 90 90 90 90 90 90 90 90 90 90	Redox Features Color (Moist) 5YR 5/8 	%   10	Type C C Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F17) Reduced Vertic (F17 Piedmont Floodplair Anomalous Bright Lo 2 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F18 Piedmont Floodplair Anomalous Bright Lo	M A B B B B C C C C C C C C C C C C C			
Remarks: SOILS Profile Description: Depth Inches D-24+ Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8)	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 90 90 CS=Cover or Coated S CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5) Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface Redox Depressions (F	Redox Features Color (Moist) 5YR 5/8 	%   10	Type C C Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright Lt 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F18 Piedmont Floodplair Anomalous Bright Lt Red Parent Material Very Shallow Dark S Other (Explain in	M A B B B B C C C C C C C C C C C C C			
Remarks: SOILS Profile Description: Depth nches D-24+ Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1)	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 90 90 CS=Cover or Coated S CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfat Thin Dark Surface (S7 Thin Dark Surface (S7 Loamy Mucky Mineral Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface Redox Depressions (F Marl (F10)	Redox Features Color (Moist) 5YR 5/8 	%   10	Type C C Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F17) Reduced Vertic (F18 Piedmont Floodplair Anomalous Bright Lo 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F18 Piedmont Floodplair Anomalous Bright Lo Red Parent Material Very Shallow Dark S	M A B B B B C C C C C C C C C C C C C			
Remarks: SOILS Profile Description: Depth nches D-24+ Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16)	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 90 90 90 90 90 90 90 90 90 90 90 90 90	Redox Features Color (Moist) 5YR 5/8 	%   10	Type C C Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright Lt 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F18 Piedmont Floodplair Anomalous Bright Lt Red Parent Material Very Shallow Dark S Other (Explain in	M A B B B B C C C C C C C C C C C C C			
Remarks: SOILS Profile Description: Depth nches D-24+ Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) S cm Mucky Mineral (A7) Muck Presence (A8) I cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if observed):	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 90 90 90 90 90 90 90 90 90 90 90 90 90	Redox Features Color (Moist) 5YR 5/8 	%   10	Type C C Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright Lt 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F18 Piedmont Floodplair Anomalous Bright Lt Red Parent Material Very Shallow Dark S Other (Explain in	M M B B B B B B B B B B B B B			
Remarks: SOILS Profile Description: Depth nches D-24+ Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) S cm Mucky Mineral (A7) Muck Presence (A8) I cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 90 90 90 90 90 90 90 90 90 90 90 90 90	Redox Features Color (Moist) 5YR 5/8 	%   10	Type C C Umbric Surface (F1: Delta Ochric (F17) Reduced Vertic (F17) Reduced Vertic (F18 Piedmont Floodplair Anomalous Bright Lo 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F18 Piedmont Floodplair Anomalous Bright Lo Red Parent Material Very Shallow Dark S Other (Explain in Remarks)	M M B B B B B B B B B B B B B	Sandy loam		

WETLAND DETERMINATION DATA FORM Eastern Mountain and Piedmont Project: I-495 NEXT Sampling Date: 9/16/2019 Sampling Point: W1-UP2

SITE INFORMATION Project # & Site: I-495 NEXT City/County: Fairfax County Date: 9/16/2019 VDOT Virginia Applicant/Owner: State: Sampling Point: W1-UP2 Investigator: KRJ/SHS Section/Township/Range: Hillslope Local Relief: Convex 2-4% Landform: Slope (%): Subregion: LRR P Lat/Long: Datum: NAD83 Wheaton-Glenelg complex, 7 to 15 percent slopes Soil Map Unit Name: NWI Classification: N/A Are climatic/hydrologic conditions on the site typical for this time of year? Yes Are "Normal Circumstances" present? Yes No Are Vegetation No Soils or Hydrology No significantly disturbed? naturally problematic? Are Vegetation No Soils No or Hydrology No 

SOMMART OF FINDINGS					/	
Hydrophytic Vegetation Present?		Yes				
Hydric soils Present?		No		Is this Sampling Point within a Wetland?	No	
Wetland Hydrology Present?		No				
Remarks:	Point taken with	nin powerline easement	t between houses and interstat	e. Slight upslope from wetland.		

HYDROLOGY					
Wetland Hydrology Indicators:				Secondary Indicators :	
Primary Indicators :				Surface Soil Cracks (B6)	
Surface Water (A1)		Water-stained Leave	es (B9)	Sparsely Vegetated Concave Surface (B8)	
High Water Table (A2)		Aquatic Fauna (B13)		Drainage Patterns (B10)	
Saturation (A3)		Marl Deposits (B 15)		Moss Trim Lines (B16)	
Water Marks (B1)		Hydrogen Sulfide Od	lor (C1)	Dry-Season Water Table (C2)	
Sediment Deposits (B2)		Oxidized Rhizospher	res on Living Roots (C3)	Crayfish Burrows (C8)	
Drift Deposits (B3)		Presence of Reduce	d Iron (C4)	Saturation Visible on Aerial Imagery (C9)	
Algal Mats or Crust (B4)		Recent Iron Reduction	on in Tilled Soils (C6)	Geomorphic Position (D2)	
Iron Deposits (B5)		Thin Muck Surface (	C7)	Shallow Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)		Other (Explain in Ren	marks)	FAC-Neutral Test (D5)	
Field Observations:					
Surface Water Present?	No	Depth (inches):			
Water Table Present?	No	Depth (inches):		Wetland Hydrology Present?	No
Saturation Present?	No	Depth (inches):			
Describe Recorded Data (Stream gauge, m previous inspection):	nonitoring we	ll, aerial photograph,			
Remarks:					

VEGETATION	VEGETATION								
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:					
N/A				# Dominant Species OBL, FACW, FAC:	2				
				# of Dominant Species Across All Strata:	3				
				Percent Dominant Species OBL, FACW, FAC:	67				
	0	) = Total Cover							
	50% of Total Cover =			0					
50/20 Thresholds:	20% of Total C	Cover =		0					
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status						
N/A									
	0	) = Total Cover							
	50% of Total C	Cover =		0					
50/20 Thresholds:	20% of Total C	Cover =		0					

Project: I-495 NEXT Sampling Date: 9/16/2019 Sampling Point: W1-UP2

Very Shallow Dark Surface (TF12)

WETLAND DETERMINATION DATA FORM

Eastern Mountain and Piedmont

	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:			
Verbesina alternifolia	25	yes	FAC	1 - Rapid Test		No	
Phytolacca americana	5	no	FACU	2 - Dominance	Fest is >50%	Yes	
				3 - Prevalence I	ndex is ≤ 3.0		
				4 - Problematic	Hydrophytic Vegetation	No	
						•	
	30	= Total Cover					
	50% of Total C		15	5			
50/20 Thresholds:	20% of Total C		6				
	Absolute %						
lerb Stratum	Cover	Dominant Species?	Indicator Status	Definitions of V	/egetation Strata:		
Eupatorium serotinum	25	yes	FAC	Tree:	20 ft or more in height, 3 in or larg	ger diameter at DBH	
Rubus argutus	20	yes	FACU	Sapling:	20 ft or more in height, less than	3 in DBH	
/erbesina alternifolia	10	no	FAC	Shrub:	3-20 ft in height		
Microstegium vimineum		no	FAC	Herb:	less than 3 ft in height		
-				Vine:	all woody vines		
	65	= Total Cover					
	50% of Total C		32.5	5			
50/20 Thresholds:	20% of Total C		13				
	Absolute %						
Noody Vine Stratum	Cover	Dominant Species?	Indicator Status				
N/A		<u> </u>		1			
VA.				-			
				-			
				_			
		= Total Cover					
	50% of Total C		(		lydrophytic Vegetation Present:	Yes	
50/20 Thresholds:	20% of Total C	over =	(	)			
Remarks:		Prevalence Index was	not used in determining pres	ence of hydrophy	ic vegetation		
Remarks:		Prevalence Index was	not used in determining pres	ence of hydrophy	tic vegetation.		
Remarks:		Prevalence Index was	not used in determining pres	ence of hydrophy	tic vegetation.		
		Prevalence Index was	not used in determining pres	ence of hydrophy	tic vegetation.		
SOILS		Prevalence Index was	not used in determining pres	ence of hydrophy	tic vegetation.		
SOILS Profile Description:	Matrix	Prevalence Index was	not used in determining pres	ence of hydrophy	tic vegetation.		
SOILS Profile Description: Depth	Matrix Color (Moist)	Prevalence Index was		ence of hydrophy	ic vegetation.	Texture	
SOILS Profile Description: Depth nches		%	Redox Features		Type Loc	Texture Sandy loam	
SOILS Profile Description: Depth nches	Color (Moist)	%	Redox Features Color (Moist)	%	Type Loc D M	Sandy loam	
SOILS Profile Description: Depth nches D-8	Color (Moist) 7.5YR 5/3 7.5YR 4/2	% 40 40	Redox Features Color (Moist) 7.5YR 8/1	%   10   10	Type Loc D M C M	Sandy loam Sandy loam	
SOILS Profile Description: Depth nches )-8	Color (Moist) 7.5YR 5/3 7.5YR 4/2 7.5YR 5/3	% 40 40 70	Redox Features Color (Moist) 7.5YR 8/1 7.5YR 5/6 7.5YR 8/1	%   10   10   10	Type Loc D M C M D M	Sandy loam Sandy loam Sandy loam	
SOILS Profile Description: Depth nches D-8	Color (Moist) 7.5YR 5/3 7.5YR 4/2	% 40 40 70	Redox Features Color (Moist) 7.5YR 8/1 7.5YR 5/6	%   10   10   10	Type Loc D M C M	Sandy loam Sandy loam	
SOILS Profile Description: Depth nches )-8	Color (Moist) 7.5YR 5/3 7.5YR 4/2 7.5YR 5/3	% 40 40 70	Redox Features Color (Moist) 7.5YR 8/1 7.5YR 5/6 7.5YR 8/1	%   10   10   10	Type Loc D M C M D M	Sandy loam Sandy loam Sandy loam	
SOILS Profile Description: Depth nches D-8 3-24+	Color (Moist) 7.5YR 5/3 7.5YR 4/2 7.5YR 5/3 7.5YR 4/2	% 40 40 70 15	Redox Features Color (Moist) 7.5YR 8/1 7.5YR 5/6 7.5YR 8/1 7.5YR 5/6	%   10   10   10   5	Type Loc D M C M D M C M C M	Sandy loam Sandy loam Sandy loam	
SOILS Profile Description: Depth nches D-8 3-24+	Color (Moist) 7.5YR 5/3 7.5YR 4/2 7.5YR 5/3 7.5YR 4/2	% 40 40 70 15	Redox Features Color (Moist) 7.5YR 8/1 7.5YR 5/6 7.5YR 8/1 7.5YR 5/6	%   10   10   10   5	Type Loc D M C M D M C M C M	Sandy loam Sandy loam Sandy loam	
Remarks: SOILS Profile Description: Depth Inches D-8 3-24+ Type: C=Concentration, D=Depletion, Ri Hydric Soil Indicators:	Color (Moist) 7.5YR 5/3 7.5YR 4/2 7.5YR 5/3 7.5YR 4/2	% 40 40 70 15 CS=Cover or Coated S	Redox Features Color (Moist) 7.5YR 8/1 7.5YR 5/6 7.5YR 8/1 7.5YR 5/6	%   10   10   10   5	Type Loc D M C M D M C M C M L L L L	Sandy loam Sandy loam Sandy loam	
SOILS         Profile Description:         Depth         nches         -8         -24+         Type: C=Concentration, D=Depletion, R         Hydric Soil Indicators:         Histosol (A1)	Color (Moist) 7.5YR 5/3 7.5YR 4/2 7.5YR 5/3 7.5YR 4/2	% 40 40 70 15 CS=Cover or Coated S Sandy Redox (S5)	Redox Features Color (Moist) 7.5YR 8/1 7.5YR 5/6 7.5YR 8/1 7.5YR 5/6	%   10   10   10   5	Type Loc D M C M D M C M C M ix Umbric Surface (F13)	Sandy loam Sandy loam Sandy loam	
SOILS Profile Description: Depth nches 	Color (Moist) 7.5YR 5/3 7.5YR 4/2 7.5YR 5/3 7.5YR 4/2	% 40 40 70 15 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6)	Redox Features Color (Moist) 7.5YR 8/1 7.5YR 5/6 7.5YR 8/1 7.5YR 5/6	%   10   10   10   5	Type Loc D M C M D M C M C M ix Umbric Surface (F13) Delta Ochric (F17)	Sandy loam Sandy loam Sandy loam	
SOILS Profile Description: Depth nches 3-24+ 5-2	Color (Moist) 7.5YR 5/3 7.5YR 4/2 7.5YR 5/3 7.5YR 4/2	% 40 70 15 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7)	Redox Features Color (Moist) 7.5YR 8/1 7.5YR 5/6 7.5YR 8/1 7.5YR 5/6 and Grains; Location: PL=Po	%   10   10   10   5	Type Loc D M C M D M C M C M ix Umbric Surface (F13) Delta Ochric (F17) Reduced Vertic (F18)	Sandy loam Sandy loam Sandy loam	
SOILS Profile Description: Depth nches 3-24+ 5-2	Color (Moist) 7.5YR 5/3 7.5YR 4/2 7.5YR 5/3 7.5YR 4/2	% 40 40 70 15 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6)	Redox Features Color (Moist) 7.5YR 8/1 7.5YR 5/6 7.5YR 8/1 7.5YR 5/6 and Grains; Location: PL=Po	%   10   10   10   5	Type Loc D M C M D M C M C M ix Umbric Surface (F13) Delta Ochric (F17)	Sandy loam Sandy loam Sandy loam	
SOILS Profile Description: Depth nches 3-24+ S-24+ Fype: C=Concentration, D=Depletion, R Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4)	Color (Moist) 7.5YR 5/3 7.5YR 4/2 7.5YR 5/3 7.5YR 4/2	% 40 70 15 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7)	Redox Features Color (Moist) 7.5YR 8/1 7.5YR 5/6 7.5YR 8/1 7.5YR 5/6 and Grains; Location: PL=Po ace (S8)	%   10   10   10   5	Type Loc D M C M D M C M C M ix Umbric Surface (F13) Delta Ochric (F17) Reduced Vertic (F18)	Sandy loam Sandy loam Sandy loam Sandy loam Sandy loam	
SOILS         Profile Description:         Depth         hches         +8         -24+         Sype: C=Concentration, D=Depletion, R         Hydric Soil Indicators:         distosol (A1)         distosol (A1)         distosol (A2)         Black Histic (A3)         Hydrogen Sulfide (A4)         Stratified Layers (A5)	Color (Moist) 7.5YR 5/3 7.5YR 4/2 7.5YR 5/3 7.5YR 4/2	% 40 40 70 15 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa	Redox Features Color (Moist) 7.5YR 8/1 7.5YR 5/6 7.5YR 8/1 7.5YR 5/6 and Grains; Location: PL=Po ace (S8)	%   10   10   10   5	Type Loc D M C M D M C M C M ix Umbric Surface (F13) Delta Ochric (F17) Reduced Vertic (F18) Piedmont Floodplain Soils (F19)	Sandy loam Sandy loam Sandy loam Sandy loam Sandy loam	
SOILS Profile Description: Depth nches 0-8 3-24+ System	Color (Moist) 7.5YR 5/3 7.5YR 4/2 7.5YR 5/3 7.5YR 4/2	% 40 40 50 50 50 50 50 50 50 50 50 50 50 50 50	Redox Features           Color (Moist)           7.5YR 8/1           7.5YR 8/1           7.5YR 8/1           7.5YR 5/6	%   10   10   10   5	Type Loc D M C M D M C M C M C M C M C L L L L L L L L L L L L L L L L L L	Sandy loam Sandy loam Sandy loam Sandy loam	
SOILS Profile Description: Depth nches D-8 3-24+ Fype: C=Concentration, D=Depletion, Ri Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7)	Color (Moist) 7.5YR 5/3 7.5YR 4/2 7.5YR 5/3 7.5YR 4/2	% 40 40 70 15 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral	Redox Features           Color (Moist)           7.5YR 8/1           7.5YR 8/1           7.5YR 8/1           7.5YR 5/6	%   10   10   10   5	Type Loc D M C M D M C M C M C M C M C Umbric Surface (F13) Delta Ochric (F17) Reduced Vertic (F18) Piedmont Floodplain Soils (F19) Anomalous Bright Loamy Soils (F 1 cm Muck (A9)	Sandy loam Sandy loam Sandy loam Sandy loam	
SOILS         Profile Description:         Depth         hches         +8        24+	Color (Moist) 7.5YR 5/3 7.5YR 4/2 7.5YR 5/3 7.5YR 4/2	% 40 40 40 70 55 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S2 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3)	Redox Features           Color (Moist)           7.5YR 8/1           7.5YR 8/1           7.5YR 8/1           7.5YR 5/6	%   10   10   10   5	Type Loc D M C M C M C M C M C M C M C M C C M C C M C C C C	Sandy loam Sandy loam Sandy loam Sandy loam	
SOILS Profile Description: Depth nches )-8 3-24+  Fype: C=Concentration, D=Depletion, Ri Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) I cm Muck (A9)	Color (Moist) 7.5YR 5/3 7.5YR 4/2 7.5YR 5/3 7.5YR 4/2	% 40 40 70 70 55 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S3 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface (	Redox Features           Color (Moist)           7.5YR 8/1           7.5YR 8/1           7.5YR 5/6           and Grains; Location: PL=Po           ace (S8)           a)           (F1)           (F2)	%   10   10   10   5	Type Loc D M C	Sandy loam Sandy loam Sandy loam Sandy loam	
SOILS Profile Description: Depth Inches D-8 B-24+ Type: C=Concentration, D=Depletion, R	Color (Moist) 7.5YR 5/3 7.5YR 4/2 7.5YR 5/3 7.5YR 4/2	% 40 40 40 70 55 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S2 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3)	Redox Features           Color (Moist)           7.5YR 8/1           7.5YR 8/1           7.5YR 8/1           7.5YR 5/6	%   10   10   10   5	Type Loc D M C M C M C M C M C M C M C M C C M C C M C C M C C C C	Sandy loam Sandy loam Sandy loam Sandy loam	

 
 Sandy Mucky Mineral (S1)
 Depleted Ochric (F11)
 Other (Explain in Remarks)

 Sandy Gleyed Matrix (S4)
 Iron-Manganese Masses (F12)
 Remarks)

 Restrictive Layer (if observed):
 Hydric Soils Present:
 No

 Type:
 Depth (inches):
 Small rocks throughout sample, might be fill from roadway.

Marl (F10)

Coast Prairie Redox (A16)

WETLAND DETERMINATION DATA FORM Eastern Mountain and Piedmont

SITE INFORMATION Project # & Site:

Applicant/Owner:

Soil Map Unit Name:

Investigator:

Landform:

Subregion:

Project: I-495 NEXT Sampling Date: 9/16/2019 Sampling Point: W2-UP1

9/16/2019

W2-UP1

5-7%

N/A

NAD83

I-495 NEXT City/County: Fairfax County Date: VDOT State: Virginia Sampling Point: KRJ/SHS Section/Township/Range: Hillslope Convex Local Relief: Slope (%): LRR P Lat/Long: 38.931152 -77.216129 Datum: Wheaton loam, 2 to 25 percent slopes NWI Classification: Are climatic/hydrologic conditions on the site typical for this time of year? Yes

Are "Normal Circumstances" present? Yes Are Vegetation No Soils No or Hydrology No significantly disturbed? Are Vegetation No Soils No or Hydrology No naturally problematic? SUMMARY OF FINDINGS Hydrophytic Vegetation Present? No Hydric soils Present? No Is this Sampling Point within a Wetland? No Wetland Hydrology Present? No Remarks: Point taken above stormwater pond and stormwater drainage swale.

HYDROLOGY						
Wetland Hydrology Indicators:				Secondary Indicators :		
Primary Indicators :				Surface Soil Cracks (B6)		
Surface Water (A1)		Water-stained Leav	es (B9)	Sparsely Vegetated Concave Surface (B8)		
High Water Table (A2)		Aquatic Fauna (B13	i)	Drainage Patterns (B10)		
Saturation (A3)		Marl Deposits (B 15	i)	Moss Trim Lines (B16)		
Water Marks (B1)		Hydrogen Sulfide O	dor (C1)	Dry-Season Water Table (C2)		
Sediment Deposits (B2)		Oxidized Rhizosphe	res on Living Roots (C3)	Crayfish Burrows (C8)		
Drift Deposits (B3)		Presence of Reduce	ed Iron (C4)	Saturation Visible on Aerial Imagery (C9)		
Algal Mats or Crust (B4)		Recent Iron Reducti	ion in Tilled Soils (C6)	Geomorphic Position (D2)		
Iron Deposits (B5)		Thin Muck Surface	(C7)	Shallow Aquitard (D3)		
Inundation Visible on Aerial Imagery (B7)		Other (Explain in Re	emarks)	FAC-Neutral Test (D5)		
Field Observations:						
Surface Water Present?	No	Depth (inches):				
Water Table Present?	No	Depth (inches):		Wetland Hydrology Present?	No	
Saturation Present?	No	Depth (inches):				
Describe Recorded Data (Stream gauge, m previous inspection):	onitoring wel	l, aerial photograph,				
Remarks:						

VEGETATION							
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:			
Acer rubrum	30	yes	FAC	# Dominant Sp	ecies OBL, FACW, FA	AC:	1
Cercis canadensis	15	yes	FACU	# of Dominant	Species Across All Str	ata:	4
Diospyros virginiana	10	no	FAC	Percent Domina	ant Species OBL, FAC	CW, FAC:	25
Robinia pseudoacacia	10	no	FACU				
Platanus occidentalis	10	no	FACW				
	75	= Total Cover					
	50% of Total C	over =	;	38			
50/20 Thresholds:	20% of Total C	over =		15			
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Inc	Prevalence Index (PI) Worksheet:		
N/A				Total Percent C	Cover of:		
				OBL	0	x1	0
				FACW	10	x2	20
				FAC	40	x3	120
				FACU	30	x4	120
	0	= Total Cover		UPL	0	x5	0
	50% of Total C	over =		0 Total	80		260
50/20 Thresholds:	20% of Total C	over =		<sup>0</sup> PI =	3.3		

Project: I-495 NEXT Sampling Date: 9/16/2019 Sampling Point: W2-UP1

WETLAND DETERMINATION DATA FORM

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic V	egetation Indicators:	
Lonicera maackii	10	yes	UPL	1 - Rapid Test		No
				2 - Dominance	Test is >50%	No
				3 - Prevalence I	Index is ≤ 3.0	No
				4 - Problematic	Hydrophytic Vegetation	No
	10	= Total Cover				
	50% of Total C	over =	5			
50/20 Thresholds:	20% of Total C	over =	2			
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of	Vegetation Strata:	
N/A				Tree:	ee: 20 ft or more in height, 3 in or larger diameter at DBH	
				Sapling:	20 ft or more in height, less than 3 in DBH	
				Shrub:	3-20 ft in height	
				Herb:	less than 3 ft in height	
				Vine:	all woody vines	
	0	= Total Cover				
	50% of Total C	over =	0			
50/20 Thresholds:	20% of Total C	over =	0			
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status			
Parthenocissus quinquefolia	5	yes	FACU			
	5	= Total Cover				
	50% of Total C	over =	2.5	F	lydrophytic Vegetation Present:	No
50/20 Thresholds:	20% of Total C	over =	1			
Remarks:						
SOILS						

Profile Description:								
Depth	Matrix		Redox Features				Texture	
Inches	Color (Moist)	%	Color (Moist)	%	Туре	Loc	Texture	
0-6	7.5YR 5/6	100					Sandy loam	
Type: C=Concentration, D=Depletion, RM	I = Reduced Matrix,	CS=Cover or Coated S	and Grains; Location	PL=Pore Lining, N	/I=Matrix			
Hydric Soil Indicators:								
Histosol (A1)		Sandy Redox (S5)			Umbric Surface (F	Umbric Surface (F13)		
Histic Epipedon (A2)		Stripped Matrix (S6)			Delta Ochric (F17)	Delta Ochric (F17)		
Black Histic (A3)		Dark Surface (S7)			Reduced Vertic (F	Reduced Vertic (F18)		
Hydrogen Sulfide (A4)		Polyvalue Below Surfa	ace (S8)		Piedmont Floodpla			
Stratified Layers (A5)		Thin Dark Surface (SS	9)		Anomalous Bright			
Organic Bodies (A6)		Loamy Mucky Mineral	(F1)		1 cm Muck (A9)			
5 cm Mucky Mineral (A7)		Loamy Gleyed Matrix	(F2)		2 cm Muck (A10)			
Muck Presence (A8)		Depleted Matrix (F3)			Reduced Vertic (F18)			
1 cm Muck (A9)		Redox Dark Surface (	F6)		Piedmont Floodpla	( )		
Depleted Below Dark Surface (A11)		Depleted Dark Surface	e (F7)		Anomalous Bright	,		
Thick Dark Surface (A12)		Redox Depressions (F	-8)		Red Parent Mater	( )		
Coast Prairie Redox (A16)		Marl (F10)			Very Shallow Dark	Surface (TF12)		
Sandy Mucky Mineral (S1)		Depleted Ochric (F11)	)		Other (Explain in			
Sandy Gleyed Matrix (S4)		Iron-Manganese Mass	ses (F12)		Remarks)			
Restrictive Layer (if observed):								
Туре:	Rock				Hydric Soils	Present:	No	
Depth (inches):	6	-						
Remarks:		Hit rock restrictive laye	er at 6 inches. 1-2 inc	h rocks throughout	sample.			

WETLAND DETERMINATION DATA FORM Eastern Mountain and Piedmont Project:I-495Sampling Date:9/16/2019Sampling Point:W2-UP2

SITE INFORMATION Project # & Site: I-495 NEXT City/County: Fairfax County Date: 9/16/2019 VDOT Applicant/Owner: State: Virginia Sampling Point: W2-UP2 Investigator: KRJ/SHS Section/Township/Range: Level or Nearly Level None Landform: Local Relief: 0-2% Slope (%): Subregion: Lat/Long: LRR P 38.931763 -77.215386 Datum: NAD83 Soil Map Unit Name: Glenelg silt loam, 15 to 25 percent slopes NWI Classification: N/A Are climatic/hydrologic conditions on the site typical for this time of year? Yes Are "Normal Circumstances" present? Yes Are Vegetation No Soils No or Hydrology No significantly disturbed? Are Vegetation No Soils No or Hydrology No naturally problematic? SUMMARY OF FINDINGS Hydrophytic Vegetation Present? No Hydric soils Present? No Is this Sampling Point within a Wetland? No Wetland Hydrology Present? No Remarks: Point taken between stormwater conveyance and stormwater pond. Hydrology is influenced by paved path upslope from the point.

HYDROLOGY						
Wetland Hydrology Indicators:				Secondary Indicators :		
Primary Indicators :				Surface Soil Cracks (B6)		
Surface Water (A1)		Water-stained Leaves	s (B9)	Sparsely Vegetated Concave Surface (B8)		
High Water Table (A2)		Aquatic Fauna (B13)		Drainage Patterns (B10)		
Saturation (A3)		Marl Deposits (B 15)		Moss Trim Lines (B16)		
Water Marks (B1)		Hydrogen Sulfide Ode	or (C1)	Dry-Season Water Table (C2)		
Sediment Deposits (B2)		Oxidized Rhizosphere	es on Living Roots (C3)	Crayfish Burrows (C8)		
Drift Deposits (B3)		Presence of Reduced	d Iron (C4)	Saturation Visible on Aerial Imagery (C9)		
Algal Mats or Crust (B4)		Recent Iron Reductio	n in Tilled Soils (C6)	Geomorphic Position (D2)		
Iron Deposits (B5)		Thin Muck Surface (C	27)	Shallow Aquitard (D3)		
Inundation Visible on Aerial Imagery (B7)		Other (Explain in Ren	narks)	FAC-Neutral Test (D5)		
Field Observations:						
Surface Water Present?	No	Depth (inches):		· · ·		
Water Table Present?	No	Depth (inches):		Wetland Hydrology Present?	No	
Saturation Present?	No	Depth (inches):				
Describe Recorded Data (Stream gauge, n previous inspection):	nonitoring wel	l, aerial photograph,			•	
Remarks:						

VEGETATION							
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:			
Fraxinus pennsylvanica	30	yes	FACW	# Dominant Spe	cies OBL, FACW, FA	IC:	5
Acer rubrum	30	yes	FAC	# of Dominant S	pecies Across All Str	ata:	10
				Percent Dominant Species OBL, FACW, FAC:			50
	60	= Total Cover					
	50% of Total Cover =		30				
50/20 Thresholds:	20% of Total C	over =	12				
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index (PI) Worksheet:			
Diospyros virginiana	15	yes	FAC	Total Percent C	over of:		
Prunus serotina	5	yes	FACU	OBL	0	x1	0
				FACW	30	x2	60
				FAC	80	x3	240
				FACU	35	x4	140
	20	= Total Cover		UPL	10	x5	50
	50% of Total C	over =	10	Total	155		490
50/20 Thresholds:	20% of Total C	over =	4	PI =	3.2		

Project:I-495Sampling Date:9/16/2019Sampling Point:W2-UP2

WETLAND DETERMINATION DATA FORM

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic V	egetation Indicators:	
Lonicera maackii	20	yes	UPL	1 - Rapid Test		No
Diospyros virginiana	15	yes	FAC	2 - Dominance Test is >50% No		
Robinia pseudoacacia	10	yes	FACU	3 - Prevalence	Index is ≤ 3.0	No
Elaeagnus umbellata	5	no	UPL	4 - Problematic	Hydrophytic Vegetation	No
	50	= Total Cover		_		
	50% of Total C	over =	25			
50/20 Thresholds:	20% of Total C	over =	10	1		
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of	Vegetation Strata:	
N/A				Tree:	20 ft or more in height, 3 in or larger diameter at	DBH
				Sapling:	20 ft or more in height, less than 3 in DBH	
				Shrub:	3-20 ft in height	
				Herb:	less than 3 ft in height	
				Vine:	all woody vines	
	0	= Total Cover			-	
	50% of Total C	over =	0			
50/20 Thresholds:	20% of Total C	over =	0	1		
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status			
Toxicodendron radicans	20	yes	FAC			
Parthenocissus quinquefolia	10	yes	FACU	7		
Hedera helix	10	yes	FACU			
	40	= Total Cover				
	50% of Total C	over =	20		Hydrophytic Vegetation Present:	No
50/20 Thresholds:	20% of Total C	over =	8	2		
Remarks:						

SOILS							
Profile Description:							
Depth	Matrix		Redox Features				Texture
nches	Color (Moist)	%	Color (Moist)	%	Туре	Loc	Texture
0-15	7.5YR 4/6	100					Sandy loam
Type: C=Concentration, D=Depletion,	RM = Reduced Matrix,	CS=Cover or Coated S	Sand Grains; Location: PL=	Pore Lining, N	M=Matrix		
Hydric Soil Indicators:							
Histosol (A1)		Sandy Redox (S5)			Umbric Surface (F13)		
Histic Epipedon (A2)		Stripped Matrix (S6)			Delta Ochric (F17)		
Black Histic (A3)		Dark Surface (S7)			Reduced Vertic (F	Reduced Vertic (F18)	
Hydrogen Sulfide (A4)		Polyvalue Below Surfa	Polyvalue Below Surface (S8)		Piedmont Floodplain Soils (F19)		
Stratified Layers (A5)		Thin Dark Surface (SS	9)		Anomalous Bright Loamy Soils (F20)		
Organic Bodies (A6)		Loamy Mucky Mineral	(F1)		1 cm Muck (A9)		
5 cm Mucky Mineral (A7)		Loamy Gleyed Matrix	(F2)		2 cm Muck (A10)		
Muck Presence (A8)		Depleted Matrix (F3)			Reduced Vertic (F	,	
1 cm Muck (A9)		Redox Dark Surface (	F6)		Piedmont Floodpla	( )	
Depleted Below Dark Surface (A11)		Depleted Dark Surfac	e (F7)		Anomalous Bright	,	
Thick Dark Surface (A12)		Redox Depressions (I	-8)		Red Parent Materi	( )	
Coast Prairie Redox (A16)		Marl (F10)			Very Shallow Dark	Surface (TF12)	
Sandy Mucky Mineral (S1)		Depleted Ochric (F11)			Other (Explain in		
		Iron-Manganese Masses (F12)			Remarks)		
Sandy Gleyed Matrix (S4)							
Sandy Gleyed Matrix (S4) Restrictive Layer (if observed):							
	Rock 15				Hydric Soils I	Present:	No

Kimley »Horn WETLAND DETERMINATION DATA FORM

Eastern Mountain and Piedmont

Project: I-495 NEXT Sampling Date: 9/16/2019 Sampling Point: W3-WET

SITE INFORMATION							
Project # & Site:	I-495 NEXT		City/County:	Fairfax County		Date:	9/16/2019
Applicant/Owner:	VDOT		State:	Virginia			
Investigator:	KRJ/SHS		Section/Township/Range:			Sampling Point:	W3-WET
Landform:	Level or Near	ly Level	Local Relief:	None		Slope (%):	0-2%
Subregion:	LRR P		Lat/Long:	38.929234 -77.207357		Datum:	NAD83
Soil Map Unit Name:	Codorus silt le	oam, 0 to 2 percent slop	bes, occasionally flooded			NW/I Classification	N/A
Are climatic/hydrologic conditions on the site	typical for this t	ime of year?		Yes NWI Classification:			IN/A
Are "Normal Circumstances" present?				Yes			
Are Vegetation	No	Soils	No	or Hydrology	No	significantly disturbed?	
Are Vegetation	No	Soils	No	or Hydrology	No	naturally problematic?	
SUMMARY OF FINDINGS							
Hydrophytic Vegetation Present?		Yes					
Hydric soils Present?		Yes		Is this Sampling Point within a Wetland?			Yes
Wetland Hydrology Present?		Yes					
Remarks:	Point taken in	floodplain, just off toe c	of slope leading to interstate.				
HYDROLOGY							
Wetland Hydrology Indicators:					Secondary Indicat	tors :	
Primary Indicators :					Surface Soil Cracks	s (B6)	
Surface Water (A1)		Water-stained Leaves	s (B9)		Sparsely Vegetated	d Concave Surface (B8)	
High Water Table (A2)		Aquatic Fauna (B13)			Drainage Patterns	(B10)	х
Saturation (A3)		Marl Deposits (B 15)			Moss Trim Lines (E	316)	
Water Marks (B1)		Hydrogen Sulfide Ode	or (C1)		Dry-Season Water	Table (C2)	
Sediment Deposits (B2)		Oxidized Rhizosphere	es on Living Roots (C3)		Crayfish Burrows (	C8)	
Drift Deposits (B3)		Presence of Reduced	d Iron (C4)		Saturation Visible of	on Aerial Imagery (C9)	
Algal Mats or Crust (B4)		Recent Iron Reductio	n in Tilled Soils (C6)		Geomorphic Position	on (D2)	х
Iron Deposits (B5)		Thin Muck Surface (C	27)		Shallow Aquitard (	03)	
Inundation Visible on Aerial Imagery (B7)		Other (Explain in Ren	narks)		FAC-Neutral Test (	D5)	Х
Field Observations:							
Surface Water Present?	No	Depth (inches):			•	•	
Water Table Present?	No	Depth (inches):		7	Wetland Hydrolog	gy Present?	Yes
Saturation Present?	No	Depth (inches):		7			
Describe Recorded Data (Stream gauge, mo previous inspection):	onitoring well, ae	rial photograph,					
Remarks:							

VEGETATION								
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status		Dominance Test Worksheet:			
Acer rubrum	30	yes	FAC		# Dominant Species OBL, FACW, FAC:	7		
Ulmus americana	20	yes	FACW		# of Dominant Species Across All Strata:	8		
					Percent Dominant Species OBL, FACW, FAC:	88		
	50	= Total Cover						
50% of Total Cover =			25					
50/20 Thresholds:	20% of Total C	over =		10				
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status					
Fraxinus pennsylvanica	15	yes	FACW					
Acer saccharum	5	yes	FACU					
	20	= Total Cover						
	50% of Total C	over =		10				
50/20 Thresholds:	20% of Total C	over =		4				

Project: I-495 NEXT Sampling Date: 9/16/2019 Sampling Point: W3-WET

WETLAND DETERMINATION DATA FORM

	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic V	egetation Indicators:		
.iquidambar styraciflua		yes	FAC	1 - Rapid Test	gotation mulcators.		No
		,		2 - Dominance	Test is >50%		Yes
				3 - Prevalence I			
					Hydrophytic Vegetation		No
					···)		
	5	= Total Cover					
	50% of Total C		2.5	5			
50/20 Thresholds:	20% of Total C		1	1			
	Absolute %						
Herb Stratum	Cover	Dominant Species?	Indicator Status	Definitions of V	egetation Strata:		
Onoclea sensibilis	20	yes	FACW	Tree:	20 ft or more in height,	3 in or larger diamet	ter at DBH
Microstegium vimineum	20	yes	FAC	Sapling:	20 ft or more in height,	less than 3 in DBH	
Eupatorium serotinum	5	no	FAC	Shrub:	3-20 ft in height		
Juncus effusus	5	no	FACW	Herb:	less than 3 ft in height		
Lycopus americanus	5	no	OBL	Vine:	all woody vines		
	55	= Total Cover					
	50% of Total C	over =	27.5				
50/20 Thresholds:	20% of Total C	over =	11				
Voody Vine Stratum	Absolute % Cover	•	Indicator Status				
Toxicodendron radicans	50	yes	FAC				
Vitis aestivalis		no	FACU				
	60	= Total Cover					
	50% of Total C	over =	30		lydrophytic Vegetatior	n Present:	Yes
50/20 Thresholds:	20% of Total C	over =	12	12			
GOILS		Prevalence Index was	not used in determining pres	ence of hydrophy	ic vegetation.		
SOILS Profile Description:	Matrix	Prevalence Index Was	not used in determining pres	ence of hydrophy	ic vegetation.		Tardara
SOILS Profile Description: Depth	Matrix Color (Moist)	%	-	%	Type Lt	00	Texture
SOILS Profile Description: Depth nches D-4		%	Redox Features		Type Lt		Texture Loamy clay
Remarks: SOILS Profile Description: Depth nches D-4 4-8	Color (Moist)	%	Redox Features Color (Moist)	%	Type Lo C M	1	
SOILS Profile Description: Depth nches D-4 4-8 3-12	Color (Moist) 7.5YR 4/2	% 80 50 80	Redox Features Color (Moist) 5YR 5/8 5YR 5/8 2.5Y 6/1	%	Type Lo C M C M	1	Loamy clay
SOILS Profile Description: Depth nches D-4 4-8 3-12	Color (Moist) 7.5YR 4/2 7.5YR 4/2	% 80 50 80	Redox Features           Color (Moist)           5YR 5/8           5YR 5/8           2.5Y 6/1           2.5Y 6/1	% 20 50 20 15	Type La C M C M D M D M	1 1 1	Loamy clay Loamy clay
SOILS Profile Description: Depth nches D-4 4-8 3-12	Color (Moist) 7.5YR 4/2 7.5YR 4/2 7.5YR 5/4	% 80 50 80	Redox Features Color (Moist) 5YR 5/8 5YR 5/8 2.5Y 6/1	% 20 50 20 15	Type La C M C M D M	1 1 1	Loamy clay Loamy clay Loamy clay
SOILS Profile Description: Depth nches D-4 4-8 3-12 12-24+	Color (Moist) 7.5YR 4/2 7.5YR 4/2 7.5YR 5/4 7.5YR 5/4 7.5YR 4/3	% 80 50 80 80	Redox Features           Color (Moist)           5YR 5/8           5YR 5/8           2.5Y 6/1           2.5Y 6/1           2.5YR 4/8	% 	Type La C M D M D M C M	1 1 1	Loamy clay Loamy clay Loamy clay Loamy clay
SOILS Profile Description: Depth nches J-4 4-8 3-12 12-24+ Type: C=Concentration, D=Depletion, RM	Color (Moist) 7.5YR 4/2 7.5YR 4/2 7.5YR 5/4 7.5YR 5/4 7.5YR 4/3	% 80 50 80 80	Redox Features           Color (Moist)           5YR 5/8           5YR 5/8           2.5Y 6/1           2.5Y 6/1           2.5YR 4/8	% 	Type La C M D M D M C M	1 1 1	Loamy clay Loamy clay Loamy clay Loamy clay
SOILS Profile Description: Depth nches D-4 4-8 3-12 12-24+ Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators:	Color (Moist) 7.5YR 4/2 7.5YR 4/2 7.5YR 5/4 7.5YR 5/4 7.5YR 4/3	% 80 50 80 80 CS=Cover or Coated S	Redox Features           Color (Moist)           5YR 5/8           5YR 5/8           2.5Y 6/1           2.5Y 6/1           2.5YR 4/8	% 	Type Lu C M D M D M C M Lu Lu Lu Lu Lu Lu Lu Lu Lu Lu Lu Lu Lu	1 1 1	Loamy clay Loamy clay Loamy clay Loamy clay
SOILS Profile Description: Depth nches D-4 4-8 3-12 12-24+ Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1)	Color (Moist) 7.5YR 4/2 7.5YR 4/2 7.5YR 5/4 7.5YR 5/4 7.5YR 4/3	% 80 50 80 80 CS=Cover or Coated S Sandy Redox (S5)	Redox Features           Color (Moist)           5YR 5/8           5YR 5/8           2.5Y 6/1           2.5Y 6/1           2.5YR 4/8	% 	Type Lu C M D M D M C M L C M L L Umbric Surface (F13)	1 1 1	Loamy clay Loamy clay Loamy clay Loamy clay
SOILS Profile Description: Depth nches )-4 1-8 3-12 12-24+ Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2)	Color (Moist) 7.5YR 4/2 7.5YR 4/2 7.5YR 5/4 7.5YR 5/4 7.5YR 4/3	% 80 50 80 80 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6)	Redox Features           Color (Moist)           5YR 5/8           5YR 5/8           2.5Y 6/1           2.5Y 6/1           2.5YR 4/8	% 	Type Lu C M D M D M C M C M Lubric Surface (F13) Delta Ochric (F17)	1 1 1	Loamy clay Loamy clay Loamy clay Loamy clay
SOILS Profile Description: Depth nches )-4 1-8 3-12 12-24+ Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) 3lack Histic (A3)	Color (Moist) 7.5YR 4/2 7.5YR 4/2 7.5YR 5/4 7.5YR 5/4 7.5YR 4/3	% 80 50 80 80 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7)	Redox Features Color (Moist) 5YR 5/8 5YR 5/8 2.5Y 6/1 2.5Y 6/1 2.5YR 4/8 and Grains; Location: PL=Po	% 	Type La C M C M D M C M C M C M L L Umbric Surface (F13) Delta Ochric (F17) Reduced Vertic (F18)	1 1 1 1	Loamy clay Loamy clay Loamy clay Loamy clay
SOILS Profile Description: Depth nches D-4 4-8 3-12 12-24+ Type: C=Concentration, D=Depletion, RN Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4)	Color (Moist) 7.5YR 4/2 7.5YR 4/2 7.5YR 5/4 7.5YR 5/4 7.5YR 4/3	% 80 50 80 80 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surface	Redox Features           Color (Moist)           5YR 5/8           5YR 5/8           2.5Y 6/1           2.5Y 6/1           2.5YR 4/8           and Grains; Location: PL=Po           icce (\$8)	% 	Type La C M C M D M C M C M C M C M L L Umbric Surface (F13) Delta Ochric (F17) Reduced Vertic (F18) Piedmont Floodplain S	1 1 1 1 0 ils (F19)	Loamy clay Loamy clay Loamy clay Loamy clay
SOILS Profile Description: Depth nches D-4 4-8 3-12 12-24+ Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5)	Color (Moist) 7.5YR 4/2 7.5YR 4/2 7.5YR 5/4 7.5YR 5/4 7.5YR 4/3	% 80 50 80 80 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5)	Redox Features           Color (Moist)           5YR 5/8           5YR 5/8           2.5Y 6/1           2.5Y 6/1           2.5YR 4/8           and Grains; Location: PL=Po           size (S8)	% 	Type La C M C M D M D M C M C M L L Umbric Surface (F13) Delta Ochric (F17) Reduced Vertic (F18) Piedmont Floodplain S Anomalous Bright Loar	1 1 1 1 0 ils (F19)	Loamy clay Loamy clay Loamy clay Loamy clay
SOILS Profile Description: Depth nches )-4 4-8 3-12 12-24+ Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6)	Color (Moist) 7.5YR 4/2 7.5YR 4/2 7.5YR 5/4 7.5YR 5/4 7.5YR 4/3	% 80 50 80 80 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S9 Loamy Mucky Mineral	Redox Features           Color (Moist)           5YR 5/8           5YR 5/8           2.5Y 6/1           2.5Y 6/1           2.5YR 4/8           and Grains; Location: PL=Po           ince (S8)           0)           (F1)	% 	Type La C M C M D M D M C M C M C M L L L L L Mbric Surface (F13) Delta Ochric (F17) Reduced Vertic (F18) Piedmont Floodplain S Anomalous Bright Loar 1 cm Muck (A9)	1 1 1 1 0 ils (F19)	Loamy clay Loamy clay Loamy clay Loamy clay
SOILS Profile Description: Depth nches D-4 4-8 3-12 12-24+ Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7)	Color (Moist) 7.5YR 4/2 7.5YR 4/2 7.5YR 5/4 7.5YR 5/4 7.5YR 4/3	% 80 50 80 80 80 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S9 Loamy Mucky Mineral Loamy Gleyed Matrix	Redox Features           Color (Moist)           5YR 5/8           5YR 5/8           2.5Y 6/1           2.5Y 6/1           2.5YR 4/8           and Grains; Location: PL=Po           ince (S8)           0)           (F1)	% 	Type La C M C M D M D M C	1 1 1 1 0 ils (F19)	Loamy clay Loamy clay Loamy clay Loamy clay
SOILS Profile Description: Depth nches D-4 4-8 3-12 12-24+ Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8)	Color (Moist) 7.5YR 4/2 7.5YR 4/2 7.5YR 5/4 7.5YR 5/4 7.5YR 4/3	% 80 50 80 80 80 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S9 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3)	Redox Features           Color (Moist)           5YR 5/8           2.5Y 6/1           2.5Y 6/1           2.5YR 4/8           and Grains; Location: PL=Po           ince (S8)           a)           (F1)           (F2)	% 	Type La C M C M D M D M C	1 1 1 1 oils (F19) my Soils (F20)	Loamy clay Loamy clay Loamy clay Loamy clay
SOILS Profile Description: Depth nches )-4 4-8 3-12 12-24+  Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) I cm Muck (A9)	Color (Moist) 7.5YR 4/2 7.5YR 4/2 7.5YR 5/4 7.5YR 5/4 7.5YR 4/3	% 80 50 80 50 80 80 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S2 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface (	Redox Features           Color (Moist)           5YR 5/8           2.5Y 6/1           2.5Y 6/1           2.5YR 4/8           and Grains; Location: PL=Po           ace (S8)           a)           (F1)           (F2)	% 	Type La C M C M D M D M C	1 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0	Loamy clay Loamy clay Loamy clay Loamy clay
SOILS Profile Description: Depth nches D-4 4-8 3-12 12-24+  Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histics (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) I cm Muck (A9) Depleted Below Dark Surface (A11)	Color (Moist) 7.5YR 4/2 7.5YR 4/2 7.5YR 5/4 7.5YR 5/4 7.5YR 4/3	% 80 50 80 50 80 80 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S2 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface (S2	Redox Features           Color (Moist)           5YR 5/8           2.5Y 6/1           2.5Y 6/1           2.5YR 4/8           and Grains; Location: PL=Po           ince (S8)           ince (S8)           ince (S8)           ince (S7)	% 	Type La C M C M D M D M C	1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 0	Loamy clay Loamy clay Loamy clay Loamy clay
SOILS Profile Description: Depth nches D-4 4-8 3-12 12-24+  Fype: C=Concentration, D=Depletion, RN Hydric Soil Indicators: Histic Soil Indicators: Histic CA3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Fhick Dark Surface (A12)	Color (Moist) 7.5YR 4/2 7.5YR 4/2 7.5YR 5/4 7.5YR 5/4 7.5YR 4/3	% 80 50 80 80 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5) Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface ( Redox Depressions (F	Redox Features           Color (Moist)           5YR 5/8           2.5Y 6/1           2.5Y 6/1           2.5YR 4/8           and Grains; Location: PL=Po           ince (S8)           ince (S8)           ince (S8)           ince (S7)	% 	Type Lo C M C M D M D M C	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Loamy clay Loamy clay Loamy clay Loamy clay
SOILS Profile Description: Depth nches D-4 4-8 3-12 12-24+  Type: C=Concentration, D=Depletion, RN Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16)	Color (Moist) 7.5YR 4/2 7.5YR 4/2 7.5YR 5/4 7.5YR 5/4 7.5YR 4/3	% 80 50 80 50 80 80 50 80 80 50 50 80 80 50 50 50 50 50 50 50 50 50 50 50 50 50	Redox Features           Color (Moist)           5YR 5/8           2.5Y 6/1           2.5Y 6/1           2.5YR 4/8           and Grains; Location: PL=Po           ace (S8)           a)           (F1)           (F2)           F6)           e (F7)	% 	Type Lo C M C M D M D M C	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Loamy clay Loamy clay Loamy clay Loamy clay
SOILS Profile Description: Depth nches D-4 4-8 3-12 12-24+  Type: C=Concentration, D=Depletion, RN Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1)	Color (Moist) 7.5YR 4/2 7.5YR 4/2 7.5YR 5/4 7.5YR 5/4 7.5YR 4/3	% 80 50 80 80 80 80 80 80 80 80 80 80 80 80 80	Redox Features           Color (Moist)           5YR 5/8           2.5Y 6/1           2.5Y 6/1           2.5YR 4/8           and Grains; Location: PL=Po           ace (S8)           a)           (F1)           (F2)           F6)           e (F7)	% 	Type La C M C M D M D M C	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Loamy clay Loamy clay Loamy clay Loamy clay
SOILS Profile Description: Depth nches Depth 1-8 3-12 12-24+  Fype: C=Concentration, D=Depletion, RN 1ydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Fhick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Color (Moist) 7.5YR 4/2 7.5YR 4/2 7.5YR 5/4 7.5YR 5/4 7.5YR 4/3	% 80 50 80 50 80 80 50 80 80 50 50 80 80 50 50 50 50 50 50 50 50 50 50 50 50 50	Redox Features           Color (Moist)           5YR 5/8           2.5Y 6/1           2.5Y 6/1           2.5YR 4/8           and Grains; Location: PL=Po           ace (S8)           a)           (F1)           (F2)           F6)           e (F7)	% 	Type Lo C M C M D M D M C	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Loamy clay Loamy clay Loamy clay Loamy clay
SOILS Profile Description: Depth nches D-4 4-8 3-12 12-24+ Type: C=Concentration, D=Depletion, RN Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if observed):	Color (Moist) 7.5YR 4/2 7.5YR 4/2 7.5YR 5/4 7.5YR 5/4 7.5YR 4/3	% 80 50 80 80 80 80 80 80 80 80 80 80 80 80 80	Redox Features           Color (Moist)           5YR 5/8           2.5Y 6/1           2.5Y 6/1           2.5YR 4/8           and Grains; Location: PL=Po           ace (S8)           a)           (F1)           (F2)           F6)           e (F7)	% 	Type       La         C       M         C       M         D       M         D       M         C       M         D       M         C       M         C       M         D       M         C       M         C       M         Delta Ochric (F17)         Reduced Vertic (F18)         Piedmont Floodplain S         Anomalous Bright Loar         1 cm Muck (A9)         2 cm Muck (A10)         Reduced Vertic (F18)         Piedmont Floodplain S         Anomalous Bright Loar         Red Parent Material (T         Very Shallow Dark Sur         Other (Explain in Remarks)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Loamy clay Loamy clay Loamy clay Loamy clay Loamy clay
SOIL S Profile Description: Depth nches D-4 4-8 3-12 12-24+ Type: C=Concentration, D=Depletion, RN Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if observed): Type:	Color (Moist) 7.5YR 4/2 7.5YR 4/2 7.5YR 5/4 7.5YR 5/4 7.5YR 4/3	% 80 50 80 80 80 80 80 80 80 80 80 80 80 80 80	Redox Features           Color (Moist)           5YR 5/8           2.5Y 6/1           2.5Y 6/1           2.5YR 4/8           and Grains; Location: PL=Po           ace (S8)           a)           (F1)           (F2)           F6)           e (F7)	% 	Type La C M C M D M D M C	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Loamy clay Loamy clay Loamy clay Loamy clay
SOILS Profile Description: Depth nches D-4 4-8 3-12 12-24+ Type: C=Concentration, D=Depletion, RN Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if observed):	Color (Moist) 7.5YR 4/2 7.5YR 4/2 7.5YR 5/4 7.5YR 5/4 7.5YR 4/3	% 80 50 80 80 80 80 80 80 80 80 80 80 80 80 80	Redox Features           Color (Moist)           5YR 5/8           2.5Y 6/1           2.5Y 6/1           2.5YR 4/8           and Grains; Location: PL=Po           ace (S8)           a)           (F1)           (F2)           F6)           e (F7)	% 	Type       La         C       M         C       M         D       M         D       M         C       M         D       M         C       M         C       M         D       M         C       M         C       M         Delta Ochric (F17)         Reduced Vertic (F18)         Piedmont Floodplain S         Anomalous Bright Loar         1 cm Muck (A9)         2 cm Muck (A10)         Reduced Vertic (F18)         Piedmont Floodplain S         Anomalous Bright Loar         Red Parent Material (T         Very Shallow Dark Sur         Other (Explain in Remarks)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Loamy clay Loamy clay Loamy clay Loamy clay Loamy clay

Project: I-495 NEXT Sampling Date: 9/16/2019 Sampling Point: W3-UP

WETLAND DETERMINATION DATA FORM Eastern Mountain and Piedmont

SITE INFORMATION							
Project # & Site:	I-495 NEXT		City/County:	Fairfax County		Date:	9/16/2019
Applicant/Owner:	VDOT		State:	Virginia			
Investigator:	KRJ/SHS		Section/Township/Range:			Sampling Point:	W3-UP
Landform:	Hillslope		Local Relief:	Convex		Slope (%):	8-10%
Subregion:	LRR P		Lat/Long:	38.929422	-77.207308	Datum:	NAD83
Soil Map Unit Name:	Codorus silt lo	am, 0 to 2 percent slop	es, occasionally flooded				N1/A
Are climatic/hydrologic conditions on the site	typical for this ti	me of year?		Yes		NWI Classification:	N/A
Are "Normal Circumstances" present?				Yes			
Are Vegetation	No	Soils	No	or Hydrology	No	significantly disturbed?	
Are Vegetation	No	Soils	No	or Hydrology	No	naturally problematic?	
SUMMARY OF FINDINGS							
Hydrophytic Vegetation Present?		Yes					
Hydric soils Present?		No		ls th	is Sampling Point w	vithin a Wetland?	No
Wetland Hydrology Present?		No					
Remarks:	Point taken or	severe slope with thick	vegetation. Slope continues	upwards to highw	vay.		
HYDROLOGY							
Wetland Hydrology Indicators:				1	Coorden demo la dio et		
	1				Secondary Indicat		
Primary Indicators :	_	Water-stained Leaves	(P0)		Surface Soil Cracks	I Concave Surface (B8)	
Surface Water (A1)		Aquatic Fauna (B13)	5 (D9)				
High Water Table (A2)		Marl Deposits (B 15)			Drainage Patterns ( Moss Trim Lines (B		
Saturation (A3)	_	Hydrogen Sulfide Odd	or (C1)		Dry-Season Water	,	
Water Marks (B1)	_		es on Living Roots (C3)		Crayfish Burrows (C	( )	
Sediment Deposits (B2)	_	Presence of Reduced	• • • •			,	
Drift Deposits (B3)		Recent Iron Reduction			Geomorphic Position	n Aerial Imagery (C9)	
Algal Mats or Crust (B4)							
Iron Deposits (B5)	_	Thin Muck Surface (C	,		Shallow Aquitard (D FAC-Neutral Test (I		
Inundation Visible on Aerial Imagery (B7)	_	Other (Explain in Rem	laiks)		FAC-Neutral Test (	D5)	
Field Observations:							
Surface Water Present?	No	Depth (inches):		_	Wetley of the dealers		Na
Water Table Present?	No	Depth (inches):		_	Wetland Hydrolog	y Present?	No
Saturation Present?	No	Depth (inches):					
Describe Recorded Data (Stream gauge, mo previous inspection):	onitoring well, ae	rial photograph,					
Remarks:							
		•					
VEGETATION							
	1	T	1	-			

VEGETATION					
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
N/A				# Dominant Species OBL, FACW, FAC:	3
				# of Dominant Species Across All Strata:	4
				Percent Dominant Species OBL, FACW, FAC:	75
	0 = Total Cover 50% of Total Cover =				
				0	
50/20 Thresholds:	20% of Total C	over =		0	
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status		
Viburnum dentatum	15	5 yes	FAC		
Diospyros virginiana	15	5 yes	FAC		
	30	0 = Total Cover			
	50% of Total C	over =		15	
50/20 Thresholds:	20% of Total C	Jover =		6	

Project: I-495 NEXT Sampling Date: 9/16/2019 Sampling Point: W3-UP

WETLAND DETERMINATION DATA FORM

Shrub Stratum	Absolute %	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:			
	Cover			1 - Rapid Test		:	No
N/A				-			No
				2 - Dominance			Yes
				3 - Prevalence			N
				4 - Problemati	c Hydrophytic Vegetati	on	No
		= Total Cover					
	50% of Total C			0			
50/20 Thresholds:	20% of Total C	over =		0			
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of	Vegetation Strata:		
Rubus pensilvanicus		yes	FAC	Tree:		ht, 3 in or larger diame	ter at DBH
	10	yca	1110	Sapling:		ht, less than 3 in DBH	
				Shrub:	3-20 ft in height		
						L.4	
				Herb:	less than 3 ft in heig	nt	
				Vine:	all woody vines		
		= Total Cover		-			
	50% of Total C		7	.5			
50/20 Thresholds:	20% of Total C	over =		3			
Voody Vine Stratum	Absolute %	Dominant Species?	Indicator Status				
-	Cover						
Vitis aestivalis	70	yes	FACU				
				_			
				_			
				_			
	70	= Total Cover					
	50% of Total C	over =			Hydrophytic Vegetat	ion Present:	Yes
				14			
	20% of Total C	Í	not used in determining pre		ytic vegetation.		
Remarks: SOILS Profile Description:		Í	not used in determining pre		ytic vegetation.		
Remarks: SOILS Profile Description: Depth	Matrix	Prevalence Index was	not used in determining pre	esence of hydroph		llas	Texture
Remarks: SOILS Profile Description: Depth nches	Matrix Color (Moist)	Prevalence Index was	not used in determining pre Redox Features Color (Moist)		ytic vegetation.	Loc	
Remarks: SOILS Profile Description: Depth nches	Matrix	Prevalence Index was	not used in determining pre Redox Features Color (Moist)	esence of hydroph		Loc	Texture Sandy loam
Remarks: BOILS Profile Description: Depth Inches	Matrix Color (Moist)	Prevalence Index was	not used in determining pre Redox Features Color (Moist)	esence of hydroph		Loc	
Remarks: SOILS Profile Description: Depth nches	Matrix Color (Moist)	Prevalence Index was	not used in determining pre Redox Features Color (Moist)	esence of hydroph			
Remarks: SOILS Profile Description: Depth nches	Matrix Color (Moist)	Prevalence Index was	not used in determining pre Redox Features Color (Moist)	esence of hydroph			
Remarks: SOILS Profile Description: Depth nches	Matrix Color (Moist)	Prevalence Index was	not used in determining pre Redox Features Color (Moist)	esence of hydroph			
Remarks: SOILS Profile Description: Depth nches D-10	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was	Redox Features Color (Moist)	%	Туре	Loc	
Remarks: SOILS Profile Description: Depth nches -10 Sype: C=Concentration, D=Depletion, RM	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was	Redox Features Color (Moist)	%	Туре	Loc	
Remarks: SOILS Profile Description: Depth nches D-10 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators:	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was	Redox Features Color (Moist)	%	Type		
Remarks: SOILS Profile Description: Depth nches D-10 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1)	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 100 CS=Cover or Coated S Sandy Redox (S5)	Redox Features Color (Moist)	%	Type		
Remarks: SOILS Profile Description: Depth nches D-10 	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6)	Redox Features Color (Moist)	%	Type trix Umbric Surface (F1 Delta Ochric (F17)	3)	
Remarks: SOILS Profile Description: Depth nches D-10 	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % % 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7)	Redox Features Color (Moist)	%	Type trix Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1	3) B)	
Remarks: SOILS Profile Description: Depth nches D-10 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4)	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6)	Redox Features Color (Moist)	%	Type trix Umbric Surface (F1 Delta Ochric (F17)	3) B)	
Remarks: SOILS Profile Description: Depth nches D-10 	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % % 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7)	Redox Features Color (Moist) and Grains; Location: PL=F	%	Type trix Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplain Anomalous Bright L	3) B) n Soils (F19)	
Remarks: SOILS Profile Description: Depth nches D-10 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5)	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % % 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surface	Redox Features Color (Moist) and Grains; Location: PL=P	%	Type Type trix Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9)	3) B) n Soils (F19)	
Remarks: SOILS Profile Description: Depth nches D-10 	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5)	Redox Features Color (Moist) and Grains; Location: PL=P	%	Type Type Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10)	3) B) n Soils (F19) oamy Soils (F20)	
Remarks: SOILS Profile Description: Depth noches D-10 	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % % 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5) Loamy Mucky Mineral	Redox Features Color (Moist) and Grains; Location: PL=P	%	Type Type trix Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9)	3) B) n Soils (F19) oamy Soils (F20)	
Remarks: SOILS Profile Description: Depth nches D-10 	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral Loamy Gleyed Matrix	Redox Features Color (Moist) and Grains; Location: PL=P ace (S8) (F1) (F2)	%	Type Type Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10)	3) B) boarny Soils (F19) boarny Soils (F20) B)	
Remarks: SOILS Profile Description: Depth noches D-10 	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5) Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3)	Redox Features Color (Moist) and Grains; Location: PL=F ace (S8) (F1) (F2) F6)	%	Type Type Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1	3) B) Doamy Soils (F19) Doamy Soils (F20) B) D Soils (F19)	
Remarks: SOILS Profile Description: Depth nches D-10 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) G om Mucky Mineral (A7) Muck Presence (A8) I om Muck (A9) Depleted Below Dark Surface (A11)	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5) Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface (	Redox Features Color (Moist) and Grains; Location: PL=P ace (S8) (F1) (F2) F6) e (F7)	%	Type Type Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplair	3) B) Doarny Soils (F19) Doarny Soils (F20) B) Doarny Soils (F19) Doarny Soils (F19) Doarny Soils	
Remarks: SOILS	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S8 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface (	Redox Features Color (Moist) and Grains; Location: PL=P ace (S8) (F1) (F2) F6) e (F7)	%	Type Type Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L	B) a Soils (F19) boarry Soils (F20) B) a Soils (F19) boarry Soils (F19) boarry Soils (F19) boarry Soils (TF2)	
Remarks: SOILS Profile Description: Depth nches D-10 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16)	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 100 % CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S8 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface Redox Depressions (F Marl (F10)	Redox Features Color (Moist) and Grains; Location: PL=F ace (S8) (F1) (F2) F6) e (F7) 	%	Type Type Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L Red Parent Materia	B) a Soils (F19) boarry Soils (F20) B) a Soils (F19) boarry Soils (F19) boarry Soils (F19) boarry Soils (TF2)	
Remarks: SOILS Profile Description: Depth Inches 10 	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 100 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S8 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface ( Redox Depressions (f Marl (F10) Depleted Ochric (F11)	Redox Features Color (Moist) and Grains; Location: PL=F (F1) (F2) F6) e (F7) F8)	%	Type Type Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L Red Parent Materia Very Shallow Dark S	B) a Soils (F19) boarry Soils (F20) B) a Soils (F19) boarry Soils (F19) boarry Soils (F19) boarry Soils (TF2)	
Remarks: SOILS Profile Description: Depth nches D-10 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) I cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 100 % CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S8 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface Redox Depressions (F Marl (F10)	Redox Features Color (Moist) and Grains; Location: PL=F (F1) (F2) F6) e (F7) F8)	%	Type Type Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Piedmont Floodplain Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplain Anomalous Bright L Red Parent Materia Very Shallow Dark S Other (Explain in	B) a Soils (F19) boarry Soils (F20) B) a Soils (F19) boarry Soils (F19) boarry Soils (F19) boarry Soils (TF2)	
Remarks: SOLLS Profile Description: Depth Inches Infl Propertion: Propertion: Depth Inches Infl Propertion: Pr	A matrix Color (Moist) 7.5YR 5/6 1 = Reduced Matrix, 1 1 = Red	Prevalence Index was % 100 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S8 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface ( Redox Depressions (f Marl (F10) Depleted Ochric (F11)	Redox Features Color (Moist) and Grains; Location: PL=F (F1) (F2) F6) e (F7) F8)	%	Type Type Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L Red Parent Materia Very Shallow Dark S Other (Explain in Remarks)	3) B) n Soils (F19) oarry Soils (F20) B) n Soils (F19) oarry Soils (TF2) Surface (TF12)	
Remarks: SOLLS Profile Description: Depth Inches Inflo System Type: C=Concentration, D=Depletion, RM System S	Matrix Color (Moist) 7.5YR 5/6	Prevalence Index was % 100 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S8 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface ( Redox Depressions (f Marl (F10) Depleted Ochric (F11)	Redox Features Color (Moist) and Grains; Location: PL=F (F1) (F2) F6) e (F7) F8)	%	Type Type Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Piedmont Floodplain Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplain Anomalous Bright L Red Parent Materia Very Shallow Dark S Other (Explain in	3) B) n Soils (F19) oarry Soils (F20) B) n Soils (F19) oarry Soils (TF2) Surface (TF12)	Sandy loam

WETLAND DETERMINATION DATA FORM Eastern Mountain and Piedmont

Project: I-495 NEXT Sampling Date: 8/9/2018 Sampling Point: W4-WET1

SITE INFORMATION							
Project # & Site:	I-495 NEXT		City/County:	Fairfax County		Date:	8/9/2018
Applicant/Owner:	VDOT		State:	Virginia			
Investigator:		ura Cooper, Kyle owler, Emily Onufer	Section/Township/Range:			Sampling Point:	W4-WET1
Landform:	Hillslope		Local Relief:	Concave		Slope (%):	2
Subregion:	LRR P		Lat/Long:	38.9355	-77.2103	Datum:	NAD83
Soil Map Unit Name:	Wheaton-Codo	rus complex, 0 to 2 per	rcent slopes	•			DEO
Are climatic/hydrologic conditions on the site t	typical for this tin	ne of year?		Yes		NWI Classification:	PFO
Are "Normal Circumstances" present?				Yes			
Are Vegetation	No	Soils	No	or Hydrology	No	significantly disturbed?	•
Are Vegetation	No	Soils	No	or Hydrology	No	naturally problematic?	
	•		•				
SUMMARY OF FINDINGS							
Hydrophytic Vegetation Present?		Yes		1			
Hydric soils Present?		Yes		ls th	is Sampling Point w	ithin a Wetland?	Yes
Wetland Hydrology Present?		Yes			······································		
		100					
Remarks:							
	1						
HYDROLOGY							
Wetland Hydrology Indicators:				T	Secondary Indicat	ore :	
	1						
Primary Indicators :		Water-stained Leaves	(B0)		Surface Soil Cracks		
Surface Water (A1)			(B9)			Concave Surface (B8)	
High Water Table (A2)		Aquatic Fauna (B13)			Drainage Patterns (		Х
Saturation (A3)		Marl Deposits (B 15)	(*.)		Moss Trim Lines (B	1	
Water Marks (B1)		Hydrogen Sulfide Odo			Dry-Season Water		
Sediment Deposits (B2)		Oxidized Rhizosphere	0 ()	Х	Crayfish Burrows (C	/	
Drift Deposits (B3)		Presence of Reduced	( ),			n Aerial Imagery (C9)	
Algal Mats or Crust (B4)		Recent Iron Reduction			Geomorphic Positio		
Iron Deposits (B5)		Thin Muck Surface (C			Shallow Aquitard (D		
Inundation Visible on Aerial Imagery (B7)		Other (Explain in Rem	arks)		FAC-Neutral Test (I	05)	Х
Field Observations:							
Surface Water Present?	No	Depth (inches):					
Water Table Present?	No	Depth (inches):			Wetland Hydrolog	y Present?	Yes
Saturation Present?	No	Depth (inches):					
Describe Recorded Data (Stream gauge, mot previous inspection):	nitoring well, aeri	al photograph,					
Remarks:							
-							
VEGETATION							
	Absolute %						
Tree Stratum	Cover	Dominant Species?	Indicator Status	Dominance Te	est Worksheet:		
Acer rubrum	65	yes	FAC	# Dominant Sp	ecies OBL, FACW, F	AC:	6
Ulmus americana	15	no	FACW	# of Dominant	Species Across All St	rata:	6
Liriodendron tulipifera		no	FACU		ant Species OBL, FA		100
					, ,	,	
	90	= Total Cover		_			
	50% of Total C		45	ò			
50/20 Thresholds:	20% of Total C		18				
	Absolute %			_			
Sapling Stratum	Cover	Dominant Species?	Indicator Status	]			
Acer rubrum		yes	FAC				
Ulmus americana		yes	FACW				
	20	= Total Cover					
	50% of Total C	over =	10	l.			
50/20 Thresholds:	20% of Total C	over =	4				

Project:I-495 NEXTSampling Date:8/9/2018Sampling Point:W4-WET1

WETLAND DETERMINATION DATA FORM

Eastern Mountain and Piedmont

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Ve	egetation Indicator	s:	
indera benzoin		yes	FAC	1 - Rapid Test	0		No
				2 - Dominance	Test is >50%		Yes
				3 - Prevalence I	ndex is ≤ 3.0		
				4 - Problematic	Hydrophytic Vegetat	ion	No
					, , , , ,		
	5	= Total Cover					
	50% of Total C	over =	2.	5			
50/20 Thresholds:	20% of Total C	over =		1			
lerb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of \	/egetation Strata:		
Aicrostegium vimineum	40	yes	FAC	Tree:	20 ft or more in hei	ght, 3 in or larger diamete	r at DBH
Acer rubrum		yes	FAC	Sapling:	20 ft or more in hei	ght, less than 3 in DBH	
Foxicodendron radicans	15	no	FAC	Shrub:	3-20 ft in height		
onicera japonica	5	no	FACU	Herb:	less than 3 ft in heig	ght	
Rosa multiflora	5	no	FACU		Ì		
Schedonorus arundinaceus	2	no	FACU	Vine:	all woody vines		
	92	= Total Cover					
	50% of Total C	over =	4	6			
50/20 Thresholds:	20% of Total C	over =	18.	4			
Noody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status				
V/A							
	0	= Total Cover					
	50% of Total C		0	0 Hydrophytic Vegetation Present:			Yes
50/20 Thresholds:	20% of Total C			0			
Remarks:		Prevalence Index was	not used in determining pre	sence of hydrophy	tic vegetation.		
SOILS							
Profile Description:							
Depth	Matrix	1	Redox Features		I		Texture
nches	Color (Moist)	%	Color (Moist)	%	Туре	Loc	0.16
)-4	10YR 4/2		5YR 5/6	10		M	Silty clay loam
1-12	10YR 5/1	85	5YR 4/6	15	C	М	Silty clay loam
				<u> </u>			
Type: C=Concentration, D=Depletion, F	RM = Reduced Matrix,	CS=Cover or Coated S	and Grains; Location: PL=P	ore Lining, M=Matr	ix		
Hydric Soil Indicators:		I					
Histosol (A1)		Sandy Redox (S5)			Umbric Surface (F1	3)	
Histic Epipedon (A2)		Stripped Matrix (S6)			Delta Ochric (F17)		
Black Histic (A3)		Dark Surface (S7)			Reduced Vertic (F1	8)	
lydrogen Sulfide (A4)		Polyvalue Below Surfa	ace (S8)		Piedmont Floodplai	n Soils (F19)	
		Thin Dark Surface (SS	2)	1	Anomalous Bright L	oamy Soils (E20)	
Stratified Layers (A5)		Thin Dark Sunace (Se	<i>)</i>				
Stratified Layers (A5) Organic Bodies (A6)		Loamy Mucky Mineral	(F1)		1 cm Muck (A9)		

	Durk Burkbb (61)			<i>y</i>		
Hydrogen Sulfide (A4)	Polyvalue Below Surface (S8)		Piedmont Floodplair	n Soils (F19)		
Stratified Layers (A5)	Thin Dark Surface (S9)		Anomalous Bright Lo	oamy Soils (F20)		
Organic Bodies (A6)	Loamy Mucky Mineral (F1)		1 cm Muck (A9)	1 cm Muck (A9)		
5 cm Mucky Mineral (A7)	Loamy Gleyed Matrix (F2)		2 cm Muck (A10)	2 cm Muck (A10)		
Muck Presence (A8)	Depleted Matrix (F3)	Х	Reduced Vertic (F18	Reduced Vertic (F18)		
1 cm Muck (A9)	Redox Dark Surface (F6)		Piedmont Floodplair	Piedmont Floodplain Soils (F19)		
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)		Anomalous Bright L	Anomalous Bright Loamy Soils		
Thick Dark Surface (A12)	Redox Depressions (F8)		Red Parent Material	Red Parent Material (TF2)		
Coast Prairie Redox (A16)	Marl (F10)		Very Shallow Dark S	ery Shallow Dark Surface (TF12)		
Sandy Mucky Mineral (S1)	Depleted Ochric (F11)		Other (Explain in			
Sandy Gleyed Matrix (S4)	Iron-Manganese Masses (F12)		Remarks)			
Restrictive Layer (if observed):						
Туре:			Hydric Soils Pr	esent:	Yes	
Depth (inches):						
Remarks:						

Kimley **»Horn** WETLAND DETERMINATION DATA FORM

Eastern Mountain and Piedmont

Project: I-495 NEXT Sampling Date: 9/18/2019 Sampling Point: W4-WET2

SITE INFORMATION							
Project # & Site:	I-495 NEXT		City/County:	Fairfax County		Date:	9/18/2019
Applicant/Owner:	VDOT		State:	Virginia			
Investigator:	KRJ/SS		Section/Township/Range:			Sampling Point:	W4-WET2
Landform:	Level or Nearly	/ Level	Local Relief:	Concave		Slope (%):	0-2%
Subregion:	LRR P		Lat/Long:	38.935503	-77.209636	Datum:	NAD83
Soil Map Unit Name:	Wheaton-Codo	orus complex, 0 to 2 pe	rcent slopes				
Are climatic/hydrologic conditions on the site t	ypical for this tir	ne of year?		Yes		NWI Classification:	N/A
Are "Normal Circumstances" present?				Yes			
Are Vegetation	No	Soils	No	or Hydrology	No	significantly disturbed?	
Are Vegetation	No	Soils	No	or Hydrology	No	naturally problematic?	
SUMMARY OF FINDINGS							
Hydrophytic Vegetation Present?		Yes					1
Hydric soils Present?		Yes		ls th	is Sampling Point w	ithin a Wetland?	Yes
Wetland Hydrology Present?		Yes		13 (1			163
Welland Hydrology Fresent:		163					
Remarks:	Point taken up:	slope from stream.					
-							
HYDROLOGY							
Wetland Hydrology Indicators:					Secondary Indicate	ors :	
Primary Indicators :					Surface Soil Cracks		
Surface Water (A1)		Water-stained Leaves	(B9)		Sparsely Vegetated	Concave Surface (B8)	
High Water Table (A2)		Aquatic Fauna (B13)			Drainage Patterns (I		
Saturation (A3)		Marl Deposits (B 15)			Moss Trim Lines (B	1	
Water Marks (B1)		Hydrogen Sulfide Odd	r (C1)		Dry-Season Water	,	
Sediment Deposits (B2)			s on Living Roots (C3)		Crayfish Burrows (C		
Drift Deposits (B3)		Presence of Reduced	• • • •			n Aerial Imagery (C9)	
Algal Mats or Crust (B4)		Recent Iron Reduction	. ,		Geomorphic Position		х
Iron Deposits (B5)		Thin Muck Surface (C			Shallow Aquitard (D		~
Inundation Visible on Aerial Imagery (B7)		Other (Explain in Rem	,		FAC-Neutral Test (D	· · · · · · · · · · · · · · · · · · ·	х
Field Observations:					TAO Neutral Test (E	55)	^
Surface Water Present?	No	Depth (inches):					
Water Table Present?	No	Depth (inches):		-	Wetland Hydrology	v Present?	Yes
Saturation Present?	No	Depth (inches):		-	freduite rijerolog		100
Describe Recorded Data (Stream gauge, mor	-	,		1			
previous inspection):	iitoring weil, aei	iai photograph,					
Demerica							
Remarks:							
		•					
VEGETATION							
	Absolute %						
Tree Stratum	Cover	Dominant Species?	Indicator Status	Dominance Te	st worksneet:		
N/A				# Dominant Spe	ecies OBL, FACW, FA	AC:	3
				# of Dominant S	Species Across All Str	rata:	4
				Percent Domina	ant Species OBL, FAC	CW, FAC:	75
	0	= Total Cover					
	50% of Total C	over =	(	)			
50/20 Thresholds:	20% of Total C	over =	(	)			
Sapling Stratum	Absolute %	Dominant Species?	Indicator Status				
N//A	Cover	-		-			
Ν/Α				-			
				-			
				4			
				-			
	-			4			
		= Total Cover		-			
	50% of Total C						
50/20 Thresholds:	20% of Total C	over =	6	<b>'</b>			

Project:I-495 NEXTSampling Date:9/18/2019Sampling Point:W4-WET2

WETLAND DETERMINATION DATA FORM

	10 Total C Total C		OBL	1 - Rapid Test 2 - Dominance 1 3 - Prevalence I			No Yes
50/20 Thresholds: 50% of 50/20 Thresholds: 20% of 2	10 Total C Total C	= Total Cover		2 - Dominance 3 - Prevalence I			
50/20 Thresholds: 20% of Absolu Cover eersia oryzoides Euthamia graminifolia	Total C Total C	over =		3 - Prevalence I			
50/20 Thresholds: 20% of Absolu Cover eersia oryzoides Euthamia graminifolia	Total C Total C	over =					
50/20 Thresholds:     20% of       Herb Stratum     Absolu       Leersia oryzoides     Euthamia graminifolia	Total C Total C	over =		· · · · · · · · · · · · · · · · · · ·	Hydrophytic Vegetatio	on	No
50/20 Thresholds:     20% of       Herb Stratum     Absolu       Leersia oryzoides     Euthamia graminifolia	Total C Total C	over =		1	i juroprijuo vogotalit		
50/20 Thresholds:     20% of       Herb Stratum     Absolu       Leersia oryzoides     Euthamia graminifolia	Total C Total C	over =					
50/20 Thresholds:     20% of       Herb Stratum     Absolu       Leersia oryzoides     Euthamia graminifolia	Total C		5				
Absolu           Iterb Stratum         Absolu           Leersia oryzoides         Euthamia graminifolia		over =	2				
Herb Stratum         Cover           Leersia oryzoides         Euthamia graminifolia							
Euthamia graminifolia		Dominant Species?	Indicator Status	Definitions of \	Vegetation Strata:		
Euthamia graminifolia	50	Yes	OBL	Tree:	1	ht, 3 in or larger diameter at	DBH
		No	FAC	Sapling:		ht, less than 3 in DBH	
		No	FACW	Shrub:	3-20 ft in height		
/erbena hastata		No	FACW	Herb:	less than 3 ft in heigh	ht	
		-	-	Vine:	all woody vines		
	75	= Total Cover			a 11000y 11100		
50% of	Total C		37.5	1			
	20% of Total Cover =		15				
Absolu							
Cover		Dominant Species?		-			
Persicaria sagittata		Yes	OBL	-			
Rubus argutus		Yes	FACU				
/itis rotundifolia	10	No	FAC				
	60	= Total Cover					
50% of	Total C	over =	30			on Present:	Yes
50/20 Thresholds: 20% of	Total C	over =	12				1
Remarks: SOILS Profile Description:		Prevalence Index was	not used in determining pres	ence of hydrophy	ic vegetation.		
Depth Matrix			Redox Features				
nches Color (I	Moist)	%	Color (Moist)	%	Туре	Loc	Texture
-6 7.5YR			2.5YR 3/6			M	Loamy clay
5-12 7.5YR			2.5YR 3/6	30		M	Loamy clay
					-		·, •
				+			
ype: C=Concentration, D=Depletion, RM = Reduced	Motrix 4	Cover or Costed S	and Grains: Location: DL Da	Lining M-Matr		<u> </u>	<u> </u>
	ivial[IX,	S=Cover of Coated S	and Grains, Location: PL=P0	e Lining, Meiviatr	17		
lydric Soil Indicators:				1			
listosol (A1)		Sandy Redox (S5)		<b> </b>	Umbric Surface (F13	3)	
		Stripped Matrix (S6)			Delta Ochric (F17)		ł
Histosol (A1) Histic Epipedon (A2) Black Histic (A3)		Dark Surface (S7)		1	Reduced Vertic (F18		•

Remarks: Ro		Rocks throughout sample.				
Depth (inches):	12	1				
Туре:	Rock			Hydric Soils P	resent:	Yes
Restrictive Layer (if observed):						
Sandy Gleyed Matrix (S4)		Iron-Manganese Masses (F12)		Remarks)		-
Sandy Mucky Mineral (S1)		Depleted Ochric (F11)		Other (Explain in		
Coast Prairie Redox (A16)		Marl (F10)		Very Shallow Dark	Surface (TF12)	
Thick Dark Surface (A12)		Redox Depressions (F8)		Red Parent Materia	Parent Material (TF2)	
Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)		Anomalous Bright L	Anomalous Bright Loamy Soils	
I cm Muck (A9)		Redox Dark Surface (F6)		Piedmont Floodplain Soils (F19)		
Muck Presence (A8)		Depleted Matrix (F3)	Х	Reduced Vertic (F1	Reduced Vertic (F18)	
5 cm Mucky Mineral (A7)		Loamy Gleyed Matrix (F2)		2 cm Muck (A10)		
Organic Bodies (A6)		Loamy Mucky Mineral (F1)		1 cm Muck (A9)		
Stratified Layers (A5)		Thin Dark Surface (S9)		Anomalous Bright L	Anomalous Bright Loamy Soils (F20)	
Hydrogen Sulfide (A4)		Polyvalue Below Surface (S8)		Piedmont Floodplain	n Soils (F19)	
Black Histic (A3)		Dark Surface (S7)		Reduced Vertic (F1	8)	
Histic Epipedon (A2)		Stripped Matrix (S6)		Delta Ochric (F17)		

WETLAND DETERMINATION DATA FORM Eastern Mountain and Piedmont Project: I-495 NEXT Sampling Date: 9/18/2019 Sampling Point: W4-UP

SITE INFORMATION Project # & Site: I-495 NEXT City/County: Fairfax County Date: 9/18/2019 VDOT Virginia Applicant/Owner: State: Sampling Point: W4-UP Investigator: KRJ/SS Section/Township/Range: Level or Nearly Level Local Relief: Concave Landform: 0-2% Slope (%): Subregion: LRR P Lat/Long: 38.935725 -77.209453 Datum: NAD83 Wheaton-Codorus complex, 0 to 2 percent slopes Soil Map Unit Name: NWI Classification: N/A Are climatic/hydrologic conditions on the site typical for this time of year? Yes Are "Normal Circumstances" present? Yes No Are Vegetation No Soils or Hydrology No significantly disturbed? naturally problematic? Are Vegetation No Soils No or Hydrology No SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?		Yes			
Hydric soils Present? Wetland Hydrology Present?		No		Is this Sampling Point within a Wetland?	No
		No			
Remarks:	Point taken adj	acent to WOUS, slightl	y upslope from wetland.		

HYDROLOGY					
Wetland Hydrology Indicators:				Secondary Indicators :	
Primary Indicators :				Surface Soil Cracks (B6)	
Surface Water (A1)		Water-stained Leaves	s (B9)	Sparsely Vegetated Concave Surface (B8)	
High Water Table (A2)		Aquatic Fauna (B13)		Drainage Patterns (B10)	
Saturation (A3)		Marl Deposits (B 15)		Moss Trim Lines (B16)	
Water Marks (B1)		Hydrogen Sulfide Odd	or (C1)	Dry-Season Water Table (C2)	
Sediment Deposits (B2)		Oxidized Rhizosphere	es on Living Roots (C3)	Crayfish Burrows (C8)	
Drift Deposits (B3)		Presence of Reduced	I Iron (C4)	Saturation Visible on Aerial Imagery (C9)	
Algal Mats or Crust (B4)		Recent Iron Reduction	n in Tilled Soils (C6)	Geomorphic Position (D2)	
Iron Deposits (B5)		Thin Muck Surface (C	(7)	Shallow Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)		Other (Explain in Rem	narks)	FAC-Neutral Test (D5)	
Field Observations:					
Surface Water Present?	No	Depth (inches):			
Water Table Present?	No	Depth (inches):		Wetland Hydrology Present?	No
Saturation Present?	No	Depth (inches):			
Describe Recorded Data (Stream gauge, m previous inspection):	onitoring we	l, aerial photograph,			
Remarks:					

VEGETATION					
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
Acer rubrum	20	) Yes	FAC	# Dominant Species OBL, FACW, FAC:	5
				# of Dominant Species Across All Strata:	8
				Percent Dominant Species OBL, FACW, FAC:	63
					I
					I
	20	) = Total Cover			I
	50% of Total C	over =	1	0	
50/20 Thresholds:	20% of Total C	over =		4	
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status		
Robinia pseudoacacia	10	) Yes	FACU	7	
				]	
	10	) = Total Cover			
	50% of Total C	over =		5	
50/20 Thresholds:	20% of Total C	over =		2	

Project: I-495 NEXT Sampling Date: 9/18/2019 Sampling Point: W4-UP

WETLAND DETERMINATION DATA FORM

Eastern Mountain and Piedmont

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic V	egetation Indicators	:	
/erbesina alternifolia		Yes	FAC	1 - Rapid Test	- 3		No
				2 - Dominance	Test is >50%		Yes
				3 - Prevalence			
					Hydrophytic Vegetati	on	No
				- Trobiomatic	riyaropiiyao vegetaa		110
	10	= Total Cover		-			
	50% of Total C		5	5			
50/20 Thresholds:	20% of Total C		2				
	Absolute %						
lerb Stratum	Cover	Dominant Species?	Indicator Status	Definitions of	Vegetation Strata:		
Panicum hemitomon	30	Yes	FACW	Tree:	20 ft or more in heig	ht, 3 in or larger diameter a	t DBH
Boehmeria cylindrica	5	No	FACW	Sapling:	20 ft or more in heig	ht, less than 3 in DBH	
				Shrub:	3-20 ft in height		
				Herb:	less than 3 ft in heig	ht	
				Vine:	all woody vines		
	35	= Total Cover					
	50% of Total C	over =	17.5	5			
50/20 Thresholds:	20% of Total C	over =	7	7			
	Absolute %		Indiantar Status				
Voody Vine Stratum	Cover	Dominant Species?	Indicator Status				
Rubus argutus	20	Yes	FACU				
Persicaria sagittata	10	Yes	OBL				
/itis aestivalis	10	Yes	FACU	]			
Polygonum perfoliatum	10	Yes	FAC				
	50	= Total Cover					
	50% of Total C	over =	25	5	Hydrophytic Vegetat	ion Present:	Yes
	20% of Total C		10 not used in determining pres		rtic vegetation.		
Remarks: COILS					rtic vegetation.		
COILS Profile Description:					rtic vegetation.		
Remarks: SOILS Profile Description: Depth	20% of Total C		not used in determining pres		/tic vegetation.	Loc	Texture
Remarks: COILS Profile Description: Depth Inches	20% of Total C Matrix	Prevalence Index was	not used in determining pres Redox Features Color (Moist)	ence of hydrophy	-	Loc	
Remarks: BOILS Profile Description: Depth Inches	20% of Total C Matrix Color (Moist)	Prevalence Index was	not used in determining pres Redox Features Color (Moist)	ence of hydrophy	-	Loc	Texture Sandy loam
50/20 Thresholds: Remarks: SOLLS Profile Description: Depth naches 24	20% of Total C Matrix Color (Moist)	Prevalence Index was	not used in determining pres Redox Features Color (Moist)	ence of hydrophy	-	Loc	
Remarks: COILS Profile Description: Depth Inches	20% of Total C Matrix Color (Moist)	Prevalence Index was	not used in determining pres Redox Features Color (Moist)	ence of hydrophy	-	Loc	
Remarks: COILS Profile Description: Depth Inches	20% of Total C Matrix Color (Moist)	Prevalence Index was	not used in determining pres Redox Features Color (Moist)	ence of hydrophy	-	Loc	
Remarks: BOILS Profile Description: Depth Inches	20% of Total C Matrix Color (Moist)	Prevalence Index was	not used in determining pres Redox Features Color (Moist)	ence of hydrophy	-	Loc	
eemarks: OILS rofile Description: hepth aches -24	20% of Total C Matrix Color (Moist) 7.5YR 6/6	Prevalence Index was	Redox Features Color (Moist)	ence of hydrophy       %	Туре	Loc	
VILS VILS vofile Description: hepth heches -24 ype: C=Concentration, D=Depletion, RM	20% of Total C Matrix Color (Moist) 7.5YR 6/6	Prevalence Index was	Redox Features Color (Moist)	ence of hydrophy       %	Туре	Loc	
Remarks: COILS Profile Description: Depth aches -24 -24 -24 -24 -24 -24 -24 -24	A matrix Color (Moist) 7.5YR 6/6 1 = Reduced Matrix,	Prevalence Index was % 100 CS=Cover or Coated S	Redox Features Color (Moist)	ence of hydrophy       %	Type		
VILS VILS VollS VollS Volta Description: Vepth Aches -24 -24 -24 -24 -24 -24 -24 -24	A matrix Color (Moist) 7.5YR 6/6 1 = Reduced Matrix,	Prevalence Index was % 100 CS=Cover or Coated S Sandy Redox (S5)	Redox Features Color (Moist)	ence of hydrophy       %	Type		
VILS VILS VollS VollS Volta Vepth Aches -24 -24 -24 -24 -24 -24 -24 -24	A matrix Color (Moist) 7.5YR 6/6 1 = Reduced Matrix,	Prevalence Index was % 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6)	Redox Features Color (Moist)	ence of hydrophy       %	Type Type Tix Umbric Surface (F1 Delta Ochric (F17)	3)	
Remarks: Profile Description: Depth aches -24 -24 -24 -24 -24 -24 -24 -24	A matrix Color (Moist) 7.5YR 6/6 1 = Reduced Matrix,	Prevalence Index was % 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7)	Redox Features Color (Moist)	ence of hydrophy       %	Type Type Tix Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F13)	3)	
Remarks: Profile Description: Depth aches -24 -24 -24 -24 -24 -24 -24 -24	A matrix Color (Moist) 7.5YR 6/6 1 = Reduced Matrix,	Prevalence Index was % 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa	Redox Features Color (Moist) and Grains; Location: PL=Po	ence of hydrophy       %	Type Type Tix Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Piedmont Floodplair	3) 3) 3) 3)	
Remarks: COLLS Profile Description: Depth aches -24 -24 -24 -24 -24 -24 -24 -24	A matrix Color (Moist) 7.5YR 6/6 1 = Reduced Matrix,	Prevalence Index was % 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S8)	Redox Features Color (Moist) and Grains; Location: PL=Po	ence of hydrophy       %	Type Type Tix Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F13)	3) 3) 3) 3)	
Remarks: COLLS Profile Description: Pepth aches -24 -24 -24 -24 -24 -24 -24 -24	A matrix Color (Moist) 7.5YR 6/6 1 = Reduced Matrix,	Prevalence Index was % 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5) Loamy Mucky Mineral	Redox Features Color (Moist) and Grains; Location: PL=Po ace (S8) (F1)	ence of hydrophy       %	Type Type Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Reduced Vertic (F11 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9)	3) 3) 3) 3)	
Remarks: COLLS Profile Description: Depth aches -24 -24 -24 -24 -24 -24 -24 -24	A matrix Color (Moist) 7.5YR 6/6 1 = Reduced Matrix,	Prevalence Index was % 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral Loamy Gleyed Matrix	Redox Features Color (Moist) and Grains; Location: PL=Po ace (S8) (F1)	ence of hydrophy       %	Type Type Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright L	3) 3) 3) 5) 5) Soils (F19) 50 Soils (F20)	
Remarks: Profile Description: Pepth hoches -24 -24 -24 -24 -24 -24 -24 -24	A matrix Color (Moist) 7.5YR 6/6 1 = Reduced Matrix,	Prevalence Index was % 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5) Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3)	Redox Features Color (Moist) and Grains; Location: PL=Po ace (S8) (F1) (F2)	ence of hydrophy       %	Type Type Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1	3) 3) 3) 5) 5) 50ils (F19) 50amy Soils (F20) 3)	
Vermarks: COLLS rofile Description: Vepth Aches -24 ype: C=Concentration, D=Depletion, RM lydric Soil Indicators: listosol (A1) listic Epipedon (A2) lack Histic (A3) lydrogen Sulfide (A4) tratified Layers (A5) Organic Bodies (A6) cm Mucky Mineral (A7) fuck Presence (A8) cm Muck (A9)	A matrix Color (Moist) 7.5YR 6/6 1 = Reduced Matrix,	Prevalence Index was % 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S2 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface (	Redox Features Color (Moist)  and Grains; Location: PL=Po  ace (S8)  (F1) (F2) F6)	ence of hydrophy       %	Type Type Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Reduced Vertic (F11 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10)	3) 3) 3) 5) 5) 5) 5) 5) 6) 6) 7) 7) 7) 7) 7) 7) 7) 7) 7) 7	
Remarks: Profile Description: Depth Aches -24 -24 -24 -24 -24 -24 -24 -24	A matrix Color (Moist) 7.5YR 6/6 1 = Reduced Matrix,	Prevalence Index was % 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5) Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface (Depleted Dark Surface	Redox Features Color (Moist)  and Grains; Location: PL=Po  ace (S8) (F1) (F2) F6) e (F7)	ence of hydrophy       %	Type Type Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Reduced Vertic (F17) 1 cm Muck (A9) 2 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F13 Piedmont Floodplair Anomalous Bright L	3) 3) 3) 5) 5) 5) 5) 5) 5) 6) 5) 6) 7) 6) 7) 7) 7) 7) 7) 7) 7) 7) 7) 7	
Remarks: Profile Description: Depth Aches -24 -24 -24 -24 -24 -24 -24 -24	A matrix Color (Moist) 7.5YR 6/6 1 = Reduced Matrix,	Prevalence Index was % 100 % CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5) Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface Redox Depressions (F	Redox Features Color (Moist)  and Grains; Location: PL=Po  ace (S8) (F1) (F2) F6) e (F7)	ence of hydrophy       %	Type Type Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F11 Piedmont Floodplair Anomalous Bright L Red Parent Material	3) 3) 3) Soils (F19) barry Soils (F20) 3) a Soils (F19) barry Soils (F19) barry Soils (F19) barry Soils (F19) barry Soils (F19)	
Alemarks: OILS rofile Description: Hepth Inches -24 -24 ype: C=Concentration, D=Depletion, RM lydric Soil Indicators: listosol (A1) listic Epipedon (A2) lack Histic (A3) lydrogen Sulfide (A4) tratified Layers (A5) organic Bodies (A6) cm Mucky Mineral (A7) fuck Presence (A8) cm Muck (A9) Pepleted Below Dark Surface (A11) hick Dark Surface (A12) Coast Prairie Redox (A16)	A matrix Color (Moist) 7.5YR 6/6 1 = Reduced Matrix,	Prevalence Index was % 100 % CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S7) Thin Dark Surface (S8) Loamy Mucky Mineral Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface Redox Depressions (F Marl (F10)	Redox Features Color (Moist) and Grains; Location: PL=Po rand Grains; Location: PL=Po (F1) (F1) (F2) F6) e (F7) 	ence of hydrophy       %	Type Type Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F11 Piedmont Floodplair Anomalous Bright L Red Parent Material Very Shallow Dark S	3) 3) 3) Soils (F19) barry Soils (F20) 3) a Soils (F19) barry Soils (F19) barry Soils (F19) barry Soils (F19) barry Soils (F19)	
Remarks: COLLS Profile Description: Depth Inches -24 -24 -24 -24 -24 -24 -24 -24	A matrix Color (Moist) 7.5YR 6/6 1 = Reduced Matrix,	Prevalence Index was % 100 Second Se	Redox Features Color (Moist) and Grains; Location: PL=Po (F1) (F2) F6) e (F7) F8)	ence of hydrophy       %	Type Type Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F11 Piedmont Floodplair Anomalous Bright L Red Parent Material	3) 3) 3) Soils (F19) barry Soils (F20) 3) a Soils (F19) barry Soils (F19) barry Soils (F19) barry Soils (F19) barry Soils (F19)	
Alemarks: OILS rofile Description: Hepth Inches -24 -24 -24 -24 -24 -24 -24 -24	A matrix Color (Moist) 7.5YR 6/6 1 = Reduced Matrix,	Prevalence Index was % 100 % CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S7) Thin Dark Surface (S8) Loamy Mucky Mineral Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface Redox Depressions (F Marl (F10)	Redox Features Color (Moist) and Grains; Location: PL=Po (F1) (F2) F6) e (F7) F8)	ence of hydrophy       %	Type Type Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F11 Piedmont Floodplair Anomalous Bright L Red Parent Material Very Shallow Dark S Other (Explain in	3) 3) 3) Soils (F19) barry Soils (F20) 3) a Soils (F19) barry Soils (F19) barry Soils (F19) barry Soils (F19) barry Soils (F19)	
Alemarks: OILS rofile Description: Hepth Inches -24 -24 ype: C=Concentration, D=Depletion, RM lydric Soil Indicators: listosol (A1) listic Epipedon (A2) lack Histic (A3) lydrogen Sulfide (A4) tratified Layers (A5) organic Bodies (A6) cm Mucky Mineral (A7) fuck Presence (A8) cm Muck (A9) Pepleted Below Dark Surface (A11) hick Dark Surface (A12) Coast Prairie Redox (A16)	A matrix Color (Moist) 7.5YR 6/6 1 = Reduced Matrix,	Prevalence Index was % 100 % CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface Redox Depressions (f Marl (F10) Depleted Ochric (F11)	Redox Features Color (Moist) and Grains; Location: PL=Po (F1) (F2) F6) e (F7) F8)	ence of hydrophy       %	Type Type Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F11 Piedmont Floodplair Anomalous Bright L Red Parent Material Very Shallow Dark S Other (Explain in	3) a) b) b) c) c) c) c) c) c) c) c) c) c	

Rocks throughout sample.

Remarks:

WETLAND DETERMINATION DATA FORM Eastern Mountain and Piedmont

Project: I-495 8/15/2018 Sampling Date: Sampling Point: W5-WET1

Yes

Yes

SITE INFORMATION -495 NEXT Fairfax County Project # & Site: City/County: Date: 8/15/2018 Applicant/Owner: VDOT State: Virginia W5-WET1 Scott Shifflett, Laura Cooper, Kyle Sampling Point: Investigator: Section/Township/Range: Haynes, Evan Fowler, Emily Onufer Hillslope Concave andform: Local Relief: Slope (%): Subregion: I RR P Lat/Long: 38.9394 -77.2043 NAD83 Datum: Soil Map Unit Name: Codorus silt loam, 0 to 2 percent slopes, occasionally flooded PFO NWI Classification: Are climatic/hydrologic conditions on the site typical for this time of year? Yes Are "Normal Circumstances" present? Yes Are Vegetation No Soils No or Hydrology No significantly disturbed? naturally problematic? Are Vegetation No Soils No or Hydrology No SUMMARY OF FINDINGS Hydrophytic Vegetation Present? Yes Hydric soils Present? Yes Is this Sampling Point within a Wetland? Wetland Hydrology Present? Yes Remarks: HYDROLOGY Wetland Hydrology Indicators: Secondary Indicators Surface Soil Cracks (B6) Primary Indicators Sparsely Vegetated Concave Surface (B8) Surface Water (A1) Water-stained Leaves (B9) Х Drainage Patterns (B10) Aquatic Fauna (B13) High Water Table (A2) х Saturation (A3) Marl Deposits (B 15) Moss Trim Lines (B16) Water Marks (B1) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) х Oxidized Rhizospheres on Living Roots (C3) Crayfish Burrows (C8) Sediment Deposits (B2) x Drift Deposits (B3) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Algal Mats or Crust (B4) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Other (Explain in Remarks) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) X Field Observations: Surface Water Present? No Depth (inches): Water Table Present? No Depth (inches): Wetland Hydrology Present? No Depth (inches): Saturation Present? Describe Recorded Data (Stream gauge, monitoring well, aerial photograph, previous inspection): Remarks: VEGETATION Absolute % Tree Stratum Dominant Species? Indicator Status Dominance Test Worksheet: Cover 50 yes FAC Acer rubrum # Dominant Species OBL, FACW, FAC: 25 yes FACW Ulmus americana # of Dominant Species Across All Strata: 15 no FACW Percent Dominant Species OBL, FACW, FAC:

100 Fraxinus pennsylvanica 90 = Total Cover 50% of Total Cover = 45 18 50/20 Thresholds: 20% of Total Cover = Absolute % Sapling Stratum Dominant Species? Indicator Status Cover 10 yes Acer rubrum FAC Fraxinus pennsylvanica 5 yes FACW 15 = Total Cover 7.5 50% of Total Cover = 20% of Total Cover = 3 50/20 Thresholds:

Project:I-495Sampling Date:8/15/2018Sampling Point:W5-WET1

WETLAND DETERMINATION DATA FORM

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic V	egetation Indicators:	
Lindera benzoin	25	yes	FAC	1 - Rapid Test	•	No
Acer rubrum	5	no	FAC	2 - Dominance	Test is >50%	Yes
				3 - Prevalence	Index is ≤ 3.0	
				4 - Problematic	Hydrophytic Vegetation	No
	30	= Total Cover				
	50% of Total C	over =	15			
50/20 Thresholds:	20% of Total C	over =	6			
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of	Vegetation Strata:	
Microstegium vimineum	70	yes	FAC	Tree:	20 ft or more in height, 3 in or larger diameter at	DBH
Smilax rotundifolia	10	no	FAC	Sapling:	20 ft or more in height, less than 3 in DBH	
Parthenocissus quinquefolia	5	no	FACU	Shrub:	3-20 ft in height	
Lonicera japonica	3	no	FACU	Herb:	less than 3 ft in height	
Lindera benzoin	2	no	FAC	Vine:	all woody vines	
	90	= Total Cover				
	50% of Total C	over =	45			
50/20 Thresholds:	20% of Total C	over =	18			
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status			
N/A						
	0	= Total Cover				
	50% of Total C	over =	0		Hydrophytic Vegetation Present:	Yes
50/20 Thresholds:	20% of Total C	over =	0	l.		
Remarks:		Prevalence Index was	not used in determining pres	ence of hydrophy	vtic vegetation.	
SOILS						
Profile Description:						

Depth	Matrix		Redox Features				
nches	Color (Moist)	%	Color (Moist)	%	Туре	Loc	Texture
)-2	10YR 6/4	100					Silt loam
2-12	10YR 4/2	90	5YR 4/6		10 C	M	Silt loam
Type: C=Concentration, D=Depletion, RI	M = Reduced Matrix,	CS=Cover or Coated S	and Grains; Location:	PL=Pore Lining, I	M=Matrix		
Hydric Soil Indicators:							
Histosol (A1)		Sandy Redox (S5)			Umbric Surface	Umbric Surface (F13)	
Histic Epipedon (A2)		Stripped Matrix (S6)			Delta Ochric (	Delta Ochric (F17)	
Black Histic (A3)		Dark Surface (S7)			Reduced Vert	Reduced Vertic (F18)	
Hydrogen Sulfide (A4)		Polyvalue Below Surfa	ace (S8)		Piedmont Flo	Piedmont Floodplain Soils (F19)	
Stratified Layers (A5)		Thin Dark Surface (SS	9)		Anomalous B	right Loamy Soils (F20)	
Organic Bodies (A6)		Loamy Mucky Mineral	(F1)		1 cm Muck (A	9)	
5 cm Mucky Mineral (A7)		Loamy Gleyed Matrix	(F2)		2 cm Muck (A	.10)	
Muck Presence (A8)		Depleted Matrix (F3)		Х	Reduced Vert	ic (F18)	
1 cm Muck (A9)		Redox Dark Surface (	F6)		Piedmont Flo	odplain Soils (F19)	
Depleted Below Dark Surface (A11)		Depleted Dark Surface	e (F7)		Anomalous B	right Loamy Soils	
Thick Dark Surface (A12)		Redox Depressions (F	-8)		Red Parent M	aterial (TF2)	
Coast Prairie Redox (A16)		Marl (F10)			Very Shallow	Dark Surface (TF12)	
Sandy Mucky Mineral (S1)		Depleted Ochric (F11)			Other (Explain	n in	•
Sandy Gleyed Matrix (S4)		Iron-Manganese Mass	ses (F12)		Remarks)		
Restrictive Layer (if observed):		•			•		
Туре:					Hydric S	oils Present:	Yes
Depth (inches):							

WETLAND DETERMINATION DATA FORM Eastern Mountain and Piedmont Project:I-495 NEXTSampling Date:9/17/2019Sampling Point:W5-WET2

SITE INFORMATION Project # & Site: I-495 NEXT City/County: Fairfax County Date: 9/17/2019 VDOT Applicant/Owner: State: Virginia Sampling Point: W5-WET2 Investigator: KRJ/SS Section/Township/Range: Level or Nearly Level Landform: Local Relief: None 0-2% Slope (%): Subregion: LRR P Lat/Long: 38.944092 -77.202578 Datum: NAD83 Soil Map Unit Name: Codorus silt loam, 0 to 2 percent slopes, occasionally flooded NWI Classification: N/A Are climatic/hydrologic conditions on the site typical for this time of year? Yes Are "Normal Circumstances" present? Yes Are Vegetation No Soils No or Hydrology No significantly disturbed? Are Vegetation No Soils No or Hydrology No naturally problematic? SUMMARY OF FINDINGS Hydrophytic Vegetation Present? Yes Hydric soils Present? Is this Sampling Point within a Wetland? Yes Yes Wetland Hydrology Present? Yes Remarks: Point taken in floodplain of adjacent stream.

Water-stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B 15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (C3)	X	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2)	X X
Aquatic Fauna (B13)         Marl Deposits (B 15)         Hydrogen Sulfide Odor (C1)         Oxidized Rhizospheres on Living Roots (C3)	X	Drainage Patterns (B10) Moss Trim Lines (B16)	X
Marl Deposits (B 15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (C3)		Moss Trim Lines (B16)	X
Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (C3)			
Oxidized Rhizospheres on Living Roots (C3)		Dry-Season Water Table (C2)	
		Crayfish Burrows (C8)	
Presence of Reduced Iron (C4)		Saturation Visible on Aerial Imagery (C9)	
Recent Iron Reduction in Tilled Soils (C6)		Geomorphic Position (D2)	x
Thin Muck Surface (C7)		Shallow Aquitard (D3)	
Other (Explain in Remarks)		FAC-Neutral Test (D5)	x
Depth (inches):			
Depth (inches):		Wetland Hydrology Present?	Yes
Depth (inches):			
erial photograph,			-
-	Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):	Thin Muck Surface (C7)         Other (Explain in Remarks)         Depth (inches):         Depth (inches):         Depth (inches):	Thin Muck Surface (C7)     Shallow Aquitard (D3)       Other (Explain in Remarks)     FAC-Neutral Test (D5)       Depth (inches):     Wetland Hydrology Present?       Depth (inches):     Vetland Hydrology Present?

VEGETATION						
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:		
Acer rubrum	30	yes	FAC	# Dominant Species OBL, FACW, FAC:	5	
				# of Dominant Species Across All Strata:	5	
				Percent Dominant Species OBL, FACW, FAC:	100	
	30	= Total Cover				
	50% of Total C	over =	1			
50/20 Thresholds:	20% of Total C	over =		6		
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status			
Carpinus caroliniana	30	yes	FAC			
	30	= Total Cover				
	50% of Total C	over =	1.	5		
50/20 Thresholds:	20% of Total C	over =		6		

Project: I-495 NEXT Sampling Date: 9/17/2019 Sampling Point: W5-WET2

WETLAND DETERMINATION DATA FORM

Eastern Mountain and Piedmont

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:			
Fraxinus pennsylvanica		yes	FACW	1 - Rapid Test			No
, ,		,		2 - Dominance	est is >50%		Yes
				3 - Prevalence I	ndex is ≤ 3.0		
				4 - Problematic	Hydrophytic Vegetation		No
	20	= Total Cover					
	50% of Total C	over =		10			
50/20 Thresholds:	20% of Total C			4			
	Absolute %	[					
Herb Stratum	Cover	Dominant Species?	Indicator Status	Definitions of \	egetation Strata:		
Microstegium vimineum	20	yes	FAC	Tree:	20 ft or more in height, 3 in	n or larger diameter a	at DBH
Polygonum hydropiperoides	15	yes	OBL	Sapling:	20 ft or more in height, less	s than 3 in DBH	
Fraxinus pennsylvanica	5	no	FACW	Shrub:	3-20 ft in height		
				Herb:	less than 3 ft in height		
				Vine:	all woody vines		
	40	= Total Cover					
	50% of Total C	over =	2	20			
50/20 Thresholds:	20% of Total C	over =		8			
Noody Vine Stratum	Absolute %	Dominant Species?	Indicator Status				
-	Cover 5		FACU				
Vitis aestivalis	5		FAGU				
				_			
				_			
	F						1
		= Total Cover		-	udeenkutie Veestetien De		N
	50% of Total C		2	.5 H	ydrophytic Vegetation Pro	esent:	Yes
	20% of Total C	over =		1			
		Prevalence Index was	not used in determining pre	esence of hydrophyl	ic vegetation.		
Remarks: SOILS Profile Description:		Prevalence Index was		esence of hydrophyl	ic vegetation.		1
Remarks: SOILS Profile Description: Depth	Matrix		Redox Features				Texture
Remarks: SOILS Profile Description: Depth nches	Matrix Color (Moist)	%	Redox Features Color (Moist)	%	Туре Loc		
Remarks: SOILS Profile Description: Depth Inches D-15	Matrix Color (Moist) 7.5YR 6/2	%	Redox Features Color (Moist) 5YR 5/8	% 40	Type Loc C M		Sandy loam
Remarks: SOILS Profile Description: Depth Inches	Matrix Color (Moist)	%	Redox Features Color (Moist)	%	Type Loc C M		
Remarks: SOILS Profile Description: Depth Inches 0-15	Matrix Color (Moist) 7.5YR 6/2	%	Redox Features Color (Moist) 5YR 5/8	% 40	Type Loc C M		Sandy loam
Remarks: SOILS Profile Description: Depth Inches 0-15	Matrix Color (Moist) 7.5YR 6/2	%	Redox Features Color (Moist) 5YR 5/8	% 40	Type Loc C M		Sandy loam
Remarks: SOILS Profile Description: Depth Inches D-15	Matrix Color (Moist) 7.5YR 6/2	%	Redox Features Color (Moist) 5YR 5/8	% 40	Type Loc C M		Sandy loam
Remarks: SOILS Profile Description: Depth nches D-15 15-24	Matrix Color (Moist) 7.5YR 6/2 7.5YR 6/2	% 60 50	Redox Features Color (Moist) 5YR 5/8 7.5YR 6/4	% 40 50	Type Loc C M C M		Sandy loam
Remarks: SOILS Profile Description: Depth nches D-15 15-24 Fype: C=Concentration, D=Depletion, RM	Matrix Color (Moist) 7.5YR 6/2 7.5YR 6/2	% 60 50	Redox Features Color (Moist) 5YR 5/8 7.5YR 6/4	% 40 50	Type Loc C M C M		Sandy loam
Remarks: SOILS Profile Description: Depth nches D-15 15-24 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators:	Matrix Color (Moist) 7.5YR 6/2 7.5YR 6/2	% 60 50 CS=Cover or Coated S	Redox Features Color (Moist) 5YR 5/8 7.5YR 6/4	% 40 50	Type Loc C M C M I I I I I X		Sandy loam
Remarks: SOILS Profile Description: Depth nches D-15 15-24 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1)	Matrix Color (Moist) 7.5YR 6/2 7.5YR 6/2	% 60 50 CS=Cover or Coated S Sandy Redox (S5)	Redox Features Color (Moist) 5YR 5/8 7.5YR 6/4	% 40 50	Type Loc C M C M - - - - - - - - - - - - - - - - - - -		Sandy loam
Remarks: SOILS Profile Description: Depth nches D-15 15-24 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2)	Matrix Color (Moist) 7.5YR 6/2 7.5YR 6/2	% 60 50 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6)	Redox Features Color (Moist) 5YR 5/8 7.5YR 6/4	% 40 50	Type Loc C M C M 		Sandy loam
Remarks: SOILS Profile Description: Depth nches D-15 15-24 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3)	Matrix Color (Moist) 7.5YR 6/2 7.5YR 6/2	% 60 50 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7)	Redox Features Color (Moist) 5YR 5/8 7.5YR 6/4 and Grains; Location: PL=F	% 40 50	Type Loc C M C M Loc M Loc X Umbric Surface (F13) Delta Ochric (F17) Reduced Vertic (F18)	(F19)	Sandy loam
Remarks: SOILS Profile Description: Depth nches D-15 15-24 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4)	Matrix Color (Moist) 7.5YR 6/2 7.5YR 6/2	% 60 50 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa	Redox Features Color (Moist) 5YR 5/8 7.5YR 6/4 and Grains; Location: PL=F	% 40 50	Type Loc C M C M Loc M Loc X Umbric Surface (F13) Delta Ochric (F17) Reduced Vertic (F18) Piedmont Floodplain Soils		Sandy loam
Remarks: SOILS Profile Description: Depth nches D-15 15-24 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5)	Matrix Color (Moist) 7.5YR 6/2 7.5YR 6/2	% 60 50 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa	Redox Features Color (Moist) 5YR 5/8 7.5YR 6/4 and Grains; Location: PL=F	% 40 50	Type Loc C M C M Loc M Loc X Umbric Surface (F13) Delta Ochric (F17) Reduced Vertic (F18)		Sandy loam
Remarks: SOILS Profile Description: Depth nches D-15 15-24 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6)	Matrix Color (Moist) 7.5YR 6/2 7.5YR 6/2	% 60 50 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral	Redox Features Color (Moist) 5YR 5/8 7.5YR 6/4 and Grains; Location: PL=F	% 40 50	Type Loc C M C M C M Loc X Umbric Surface (F13) Delta Ochric (F17) Reduced Vertic (F18) Piedmont Floodplain Soils Anomalous Bright Loamy S		Sandy loam
Remarks: SOILS Profile Description: Depth nches D-15 15-24 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7)	Matrix Color (Moist) 7.5YR 6/2 7.5YR 6/2	% 60 50 50 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral Loamy Gleyed Matrix	Redox Features Color (Moist) 5YR 5/8 7.5YR 6/4 and Grains; Location: PL=F	% 40 50	Type Loc C M C M C M interface (F13) Delta Ochric (F17) Reduced Vertic (F18) Piedmont Floodplain Soils Anomalous Bright Loamy S 1 cm Muck (A9)		Sandy loam
Remarks: SOILS Profile Description: Depth nches D-15 15-24 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8)	Matrix Color (Moist) 7.5YR 6/2 7.5YR 6/2	% 60 50 50 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S3 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3)	Redox Features Color (Moist) 5YR 5/8 7.5YR 6/4 and Grains; Location: PL=F acce (S8) 9) (F1) (F2)	% 40 50	Type Loc C M C M C M Loc X Umbric Surface (F13) Delta Ochric (F17) Reduced Vertic (F18) Piedmont Floodplain Soils Anomalous Bright Loamy S 1 cm Muck (A9) 2 cm Muck (A10)	Soils (F20)	Sandy loam
Remarks: SOILS Profile Description: Depth nches )-15 15-24 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Slack Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9)	Matrix Color (Moist) 7.5YR 6/2 7.5YR 6/2	% 60 50 50 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral Loamy Gleyed Matrix	Redox Features Color (Moist) 5YR 5/8 7.5YR 6/4 and Grains; Location: PL=F ace (S8) 0) (F1) (F2) F6)	% 40 50	Type Loc C M C M C M Loc X Umbric Surface (F13) Delta Ochric (F17) Reduced Vertic (F18) Piedmont Floodplain Soils Anomalous Bright Loamy S 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F18)	Soils (F20) (F19)	Sandy loam
Remarks: SOILS Profile Description: Depth nches 3-15 15-24 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) I cm Muck (A9) Depleted Below Dark Surface (A11)	Matrix Color (Moist) 7.5YR 6/2 7.5YR 6/2	% 60 50 50 50 50 50 50 50 50 50 50 50 50 50	Redox Features           Color (Moist)           5YR 5/8           7.5YR 6/4	% 40 50	Type Loc C M C M C M C M C M C M C M C C M C C M C C M C C C M C C M C C M C C M C C M C C M C C M C C M C C M C C M C M C C M C C M C (F17) R C M C M C M C (F17) R C M C M C C (F17) R C M C M C C M C C C C C (F17) R C M C C C C C C C C C C C C C C C C C	Soils (F20) (F19) Soils	Sandy loam
Remarks: SOILS Profile Description: Depth nches )-15 15-24 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) 3lack Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12)	Matrix Color (Moist) 7.5YR 6/2 7.5YR 6/2	% 60 50 50 50 50 50 50 50 50 50 50 50 50 50	Redox Features           Color (Moist)           5YR 5/8           7.5YR 6/4	% 40 50	Type Loc C M C M C M C M C M Loc C M C C M C C M C C C M C C C M C C M C C M C C M C C M C C M C C M C C M C C M C C M C C M C C M C C M C C M C C M C C M C C M C C M C C M C C M C C M C C M C C C M C C M C C M C C M C C M C C M C C M C C M C C M C C M C C M C	Soils (F20) (F19) Soils	Sandy loam
Remarks: SOILS Profile Description: Depth nches D-15 15-24 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16)	Matrix Color (Moist) 7.5YR 6/2 7.5YR 6/2	% 60 50 50 50 50 50 50 50 50 50 50 50 50 50	Redox Features           Color (Moist)           5YR 5/8           7.5YR 6/4           and Grains; Location: PL=F           ace (S8)           a)           (F1)           (F2)           F6)           e (F7)           78)	% 40 50	Type Loc C M C M C M C M C M C M C M C M C M C M	Soils (F20) (F19) Soils	Sandy loam
Remarks: SOILS Profile Description: Depth nches 1-15 15-24 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1)	Matrix Color (Moist) 7.5YR 6/2 7.5YR 6/2	% 60 50 50 50 50 50 50 50 50 50 50 50 50 50	Redox Features           Color (Moist)           5YR 5/8           7.5YR 6/4           and Grains; Location: PL=F           ace (S8)           a)           (F1)           (F2)           F6)           e (F7)           78)	% 40 50	Type Loc C M C M C M C M C M C M C M C M C M C M	Soils (F20) (F19) Soils	Sandy loam
Remarks: SOILS Profile Description: Depth nches 1-15 15-24 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Matrix Color (Moist) 7.5YR 6/2 7.5YR 6/2	% 60 50 50 50 50 50 50 50 50 50 50 50 50 50	Redox Features           Color (Moist)           5YR 5/8           7.5YR 6/4           and Grains; Location: PL=F           ace (S8)           a)           (F1)           (F2)           F6)           e (F7)           78)	% 40 50	Type Loc C M C M C M C M C M C M C M C M C M C M	Soils (F20) (F19) Soils	Sandy loam
Remarks: SOILS Profile Description: Depth nches D-15 15-24 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if observed):	Matrix Color (Moist) 7.5YR 6/2 7.5YR 6/2	% 60 50 50 50 50 50 50 50 50 50 50 50 50 50	Redox Features           Color (Moist)           5YR 5/8           7.5YR 6/4           and Grains; Location: PL=F           ace (S8)           a)           (F1)           (F2)           F6)           e (F7)           78)	% 40 50	Type Loc C M C M C M C M C M C M C M C M C M C M	Soils (F20) (F19) Soils 9 (TF12)	Sandy loam
Remarks: SOILS Profile Description: Depth nches D-15 15-24 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Spipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) S cm Mucky Mineral (A7) Muck Presence (A8) I cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if observed): Type:	Matrix Color (Moist) 7.5YR 6/2 7.5YR 6/2	% 60 50 50 50 50 50 50 50 50 50 50 50 50 50	Redox Features           Color (Moist)           5YR 5/8           7.5YR 6/4           and Grains; Location: PL=F           ace (S8)           a)           (F1)           (F2)           F6)           e (F7)           78)	% 40 50	Type       Loc         C       M         C       M         C       M         C       M         C       M         C       M         C       M         C       M         C       M         C       M         C       M         C       M         C       M         C       M         C       M         C       M         C       M         C       M         Loc       M         C       M         C       M         C       M         C       M         C       M         Statistics       Filedmont Floodplain Soils         Anomalous Bright Loamy S       Red Parent Material (TF2)         Very Shallow Dark Surface       Other (Explain in Remarks)	Soils (F20) (F19) Soils 9 (TF12)	Sandy loam Sandy loam Sandy loam
Remarks: SOILS Profile Description: Depth Inches D-15 15-24 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8)	Matrix Color (Moist) 7.5YR 6/2 7.5YR 6/2	% 60 50 50 50 50 50 50 50 50 50 50 50 50 50	Redox Features           Color (Moist)           5YR 5/8           7.5YR 6/4           and Grains; Location: PL=F           ace (S8)           a)           (F1)           (F2)           F6)           e (F7)           78)	% 40 50	Type       Loc         C       M         C       M         C       M         C       M         C       M         C       M         C       M         C       M         C       M         C       M         C       M         C       M         C       M         C       M         C       M         C       M         C       M         C       M         Loc       M         C       M         C       M         C       M         C       M         C       M         Statistics       Filedmont Floodplain Soils         Anomalous Bright Loamy S       Red Parent Material (TF2)         Very Shallow Dark Surface       Other (Explain in Remarks)	Soils (F20) (F19) Soils 9 (TF12)	Sandy loam Sandy loam Sandy loam

Kimley »Horn WETLAND DETERMINATION DATA FORM

Investigator:

Landform:

Subregion:

Are Vegetation

Are Vegetation

Project: I-495 NEXT Sampling Date: 9/17/2019 Sampling Point: W5-UP1

Eastern Mountain and Piedmont SITE INFORMATION Project # & Site: I-495 NEXT City/County: Fairfax County Date: 9/17/2019 VDOT Virginia Applicant/Owner: State: Sampling Point: W5-UP1 KRJ/SS Section/Township/Range: Level or Nearly Level Local Relief: None 0-2% Slope (%): Lat/Long: LRR P 38.936395 -77.206697 Datum: NAD83 Codorus silt loam, 0 to 2 percent slopes, occasionally flooded Soil Map Unit Name: NWI Classification: N/A Are climatic/hydrologic conditions on the site typical for this time of year? Yes Are "Normal Circumstances" present? Yes No No Soils or Hydrology No significantly disturbed? naturally problematic? No Soils No or Hydrology No

SUMMARY OF FINDINGS					
Hydrophytic Vegetation Present?		No			
Hydric soils Present?		No		Is this Sampling Point within a Wetland?	No
Wetland Hydrology Present?		No			
Remarks:	Point taken bet	ween highway and resi	dential area.		

HYDROLOGY					
Wetland Hydrology Indicators:				Secondary Indicators :	
Primary Indicators :				Surface Soil Cracks (B6)	
Surface Water (A1)		Water-stained Leaves	Water-stained Leaves (B9) Sparsely Vegetated Concave Surface (B8)		
High Water Table (A2)		Aquatic Fauna (B13)		Drainage Patterns (B10)	
Saturation (A3)		Marl Deposits (B 15)		Moss Trim Lines (B16)	
Water Marks (B1)		Hydrogen Sulfide Odd	or (C1)	Dry-Season Water Table (C2)	
Sediment Deposits (B2)		Oxidized Rhizosphere	es on Living Roots (C3)	Crayfish Burrows (C8)	
Drift Deposits (B3)		Presence of Reduced	I Iron (C4)	4) Saturation Visible on Aerial Imagery (C9)	
Algal Mats or Crust (B4)		Recent Iron Reduction	n in Tilled Soils (C6)	Geomorphic Position (D2)	
Iron Deposits (B5)		Thin Muck Surface (C	27)	Shallow Aquitard (D3)	
nundation Visible on Aerial Imagery (B7)		Other (Explain in Rem	narks)	FAC-Neutral Test (D5)	
Field Observations:					
Surface Water Present?	No	Depth (inches):			
Water Table Present?	No	Depth (inches):		Wetland Hydrology Present?	No
Saturation Present?	No	Depth (inches):			
Describe Recorded Data (Stream gauge, m previous inspection):	onitoring we	ll, aerial photograph,			
Remarks:					

VEGETATION								
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Te	st Worksheet:			
Platanus occidentalis	10	Yes	FACW	# Dominant Spe	ecies OBL, FACW, FA	NC:	3	
Liriodendron tulipifera	10	Yes	FACU	# of Dominant S	Species Across All Sti	ata:	6	
				Percent Domina	ant Species OBL, FA	CW, FAC:	50	
	20	= Total Cover						
	50% of Total C	over =	1	0				
50/20 Thresholds:	20% of Total C	over =		4				
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Ind	lex (PI) Worksheet:			
N/A				Total Percent C	over of:			
				OBL	0	x1	0	
				FACW	10	x2	20	
				FAC	60	x3	180	
				FACU	80	x4	320	
	0	= Total Cover		UPL	0	x5	0	
	50% of Total C	over =		0 Total	150		520	
50/20 Thresholds:	20% of Total C	over =		<sup>0</sup> PI =	3.5			

Project: I-495 NEXT Sampling Date: 9/17/2019 Sampling Point: W5-UP1

WETLAND DETERMINATION DATA FORM

/erbesina alternifolia	20	Yes	FAC			egetation Indicators:	
			FAC	1	I - Rapid Test		No
				_	2 - Dominance	Test is >50%	No
				3	3 - Prevalence I	ndex is ≤ 3.0	No
				4	4 - Problematic	Hydrophytic Vegetation	No
						· · · ·	
	20	= Total Cover					
	50% of Total C	over =		10			
50/20 Thresholds:	20% of Total C	over =		4			
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status		Definitions of \	/egetation Strata:	
Microstegium vimineum	40	Yes	FAC	٦	Free:	20 ft or more in height, 3 in or larger diameter at	DBH
Rubus argutus	10	Yes	FACU	Ş	Sapling:	20 ft or more in height, less than 3 in DBH	
				5	Shrub:	3-20 ft in height	
				ŀ	Herb:	less than 3 ft in height	
				١	/ine:	all woody vines	
	50	= Total Cover					
	50% of Total C	over =		25			
50/20 Thresholds:	20% of Total C	over =		10			
Noody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status				
/itis aestivalis	60	Yes	FACU				
	60	= Total Cover					
	50% of Total C	over =		30	H	lydrophytic Vegetation Present:	No
50/20 Thresholds:	20% of Total C	over =		12			
Remarks:							

5 Type Loc	Texture
5 Type Loc	Texture
5 Type Loc	rexture
	Sandy loam
10 C M	Sandy loam
Lining, M=Matrix	
Umbric Surface (F13)	
Delta Ochric (F17)	
Reduced Vertic (F18)	
Piedmont Floodplain Soils (F19)	
Anomalous Bright Loamy Soils (F20)	
1 cm Muck (A9)	
2 cm Muck (A10)	
Reduced Vertic (F18)	
Piedmont Floodplain Soils (F19)	
Anomalous Bright Loamy Soils	
Red Parent Material (TF2)	
Very Shallow Dark Surface (TF12)	
Remarks)	
Hydric Soils Present:	No
	Other (Explain in Remarks)

Eastern Mountain and Piedmont

Project:I-495 NEXTSampling Date:9/17/2019Sampling Point:W5-UP2

SITE INFORMATION I-495 NEXT City/County: Fairfax County 9/17/2019 Project # & Site: Date: VDOT Applicant/Owner: State: Virginia Sampling Point: W5-UP2 Investigator: KRJ/SS Section/Township/Range: Hillslope Local Relief: Convex 2-5% andform: Slope (%): Subregion: LRR P Lat/Long: 38.944959 -77.202455 Datum: NAD83 Codorus silt loam, 0 to 2 percent slopes, occasionally flooded Soil Map Unit Name: N/A NWI Classification: Are climatic/hydrologic conditions on the site typical for this time of year? Yes Are "Normal Circumstances" present? Yes Are Vegetation No Soils No or Hydrology No significantly disturbed? Are Vegetation No Soils No or Hydrology No naturally problematic? SUMMARY OF FINDINGS Hydrophytic Vegetation Present? No Hydric soils Present? No Is this Sampling Point within a Wetland? No Wetland Hydrology Present? No Remarks: Point taken on hillslope between interstate and stream. HYDROLOGY Wetland Hydrology Indicators: Secondary Indicators Surface Soil Cracks (B6) Primary Indicators Sparsely Vegetated Concave Surface (B8) Surface Water (A1) Water-stained Leaves (B9) Aquatic Fauna (B13) Drainage Patterns (B10) High Water Table (A2) Saturation (A3) Marl Deposits (B 15) Moss Trim Lines (B16) Water Marks (B1) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Crayfish Burrows (C8) Sediment Deposits (B2) Presence of Reduced Iron (C4) Drift Deposits (B3) Saturation Visible on Aerial Imagery (C9) Algal Mats or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Other (Explain in Remarks) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Field Observations: Surface Water Present? No Depth (inches): Wetland Hydrology Present? Water Table Present? No Depth (inches): No Depth (inches): Saturation Present? No Describe Recorded Data (Stream gauge, monitoring well, aerial photograph, previous inspection): Remarks: No hydrology observed.

VEGETATION							
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:			
Liriodendron tulipifera	10	) yes	FACU	# Dominant Species OBL, FACW, FAC:			3
Platanus occidentalis	10	) yes	FACW	# of Dominant Species Across All Strata:			10
Acer rubrum	10	) yes	FAC	Percent Dominant Species OBL, FACW, FAC: 30			
				-			
		) = Total Cover					
	50% of Total Cover =		15	5			
50/20 Thresholds:	20% of Total C	over =	6	\$			
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index (PI) Worksheet:			
Platanus occidentalis	15	5 yes	FACW	Total Percent Cover of:			
				OBL	0	x1	0
				FACW	25	x2	50
				FAC	15	x3	45
				FACU	85	x4	340
	15 = Total Cover			UPL	0	x5	0
	50% of Total Cover =		7.5	5 Total	125		435
50/20 Thresholds:	20% of Total Cover =		3	<sup>3</sup> PI =	3.5		

Project: I-495 NEXT Sampling Date: 9/17/2019 Sampling Point: W5-UP2

Other (Explain in

Hydric Soils Present:

No

Remarks)

WETLAND DETERMINATION DATA FORM

Eastern Mountain and Piedmont

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic V	egetation Indicator	s:	
Juglans nigra	15	yes	FACU	1 - Rapid Test			No
Solidago canadensis	15	yes	FACU	2 - Dominance	Test is >50%		No
Rosa multiflora	15	yes	FACU	3 - Prevalence	Index is ≤ 3.0		No
Populus deltoides	5	no	FAC	4 - Problematic	Hydrophytic Vegeta	tion	No
	50	= Total Cover					
	50% of Total C	over =	2	5			
50/20 Thresholds:	20% of Total C	over =		0			
	Absolute %						
lerb Stratum	Cover	Dominant Species?	Indicator Status	Definitions of	Vegetation Strata:		
Solidago canadensis	10	yes	FACU	Tree:	20 ft or more in hei	ght, 3 in or larger diameter	at DBH
				Sapling:	20 ft or more in hei	ght, less than 3 in DBH	
				Shrub:	3-20 ft in height		
				Herb:	less than 3 ft in hei	ght	
				Vine:	all woody vines		
	10	= Total Cover					
	50% of Total C			5			
50/20 Thresholds:	20% of Total C			2			
	Absolute %	1					
Noody Vine Stratum	Cover	Dominant Species?	Indicator Status				
Lonicera japonica	10	yes	FACU				
Vitis aestivalis		yes	FACU				
	_	-					
	20	= Total Cover					
	50% of Total C			10 H	Hydrophytic Vegeta	tion Present:	No
50/20 Thresholds:	20% of Total C			4	,		
30/20 Thicsholds.	2070 01 10101 0	0101 -					
Remarks:							
SOILS							
Profile Description:							
· · · · · · · · · · · · · · · · · · ·							
Depth nches			Rodov Footuroo				
licites	Matrix	0/	Redox Features	0/	Tumo	1.00	Texture
0.6	Color (Moist)	%	Color (Moist)	%	Туре	Loc	
0-6	Color (Moist) 7.5YR 5/4	100	Color (Moist)	%	Туре	Loc	Sandy loam
5-12	Color (Moist) 7.5YR 5/4 7.5YR 5/6	100 100	Color (Moist)			Loc	Sandy loam Sandy loam
S-12	Color (Moist) 7.5YR 5/4	100 100	Color (Moist) 5YR 4/6	20			Sandy loam Sandy loam Sandy loam
5-12	Color (Moist) 7.5YR 5/4 7.5YR 5/6	100 100	Color (Moist)				Sandy loam Sandy loam
S-12	Color (Moist) 7.5YR 5/4 7.5YR 5/6	100 100	Color (Moist) 5YR 4/6	20		Loc 	Sandy loam Sandy loam Sandy loam
3-12 12-24	Color (Moist) 7.5YR 5/4 7.5YR 5/6 7.5YR 6/2	100 100 70	Color (Moist) 5YR 4/6 5YR 6/8	20		Loc 	Sandy loam Sandy loam Sandy loam
3-12 12-24 Type: C=Concentration, D=Depletion, RM	Color (Moist) 7.5YR 5/4 7.5YR 5/6 7.5YR 6/2	100 100 70	Color (Moist) 5YR 4/6 5YR 6/8	20		Loc 	Sandy loam Sandy loam Sandy loam
5-12 12-24 Type: C=Concentration, D=Depletion, RM	Color (Moist) 7.5YR 5/4 7.5YR 5/6 7.5YR 6/2	100 100 70 CS=Cover or Coated S	Color (Moist) 5YR 4/6 5YR 6/8	20			Sandy loam Sandy loam Sandy loam
5-12 12-24 Type: C=Concentration, D=Depletion, RM <b>4ydric Soil Indicators:</b>	Color (Moist) 7.5YR 5/4 7.5YR 5/6 7.5YR 6/2	100 100 70	Color (Moist) 5YR 4/6 5YR 6/8	20			Sandy loam Sandy loam Sandy loam
-12 2-24 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1)	Color (Moist) 7.5YR 5/4 7.5YR 5/6 7.5YR 6/2	100 100 70 CS=Cover or Coated S	Color (Moist) 5YR 4/6 5YR 6/8	20			Sandy loam Sandy loam Sandy loam
-12 2-24 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2)	Color (Moist) 7.5YR 5/4 7.5YR 5/6 7.5YR 6/2	100 100 70 CS=Cover or Coated S Sandy Redox (S5)	Color (Moist) 5YR 4/6 5YR 6/8	20	rix Umbric Surface (F	3)	Sandy loam Sandy loam Sandy loam
-12 2-24 	Color (Moist) 7.5YR 5/4 7.5YR 5/6 7.5YR 6/2	100 100 70 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6)	Color (Moist) 5YR 4/6 5YR 6/8 and Grains; Location: PL=F	20	Umbric Surface (F Delta Ochric (F17)	3)	Sandy loam Sandy loam Sandy loam
-12 2-24 	Color (Moist) 7.5YR 5/4 7.5YR 5/6 7.5YR 6/2	100 100 70 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7)	Color (Moist) 5YR 4/6 5YR 6/8 and Grains; Location: PL=F	20	Umbric Surface (F Delta Ochric (F17) Reduced Vertic (F1	3) 8) n Soils (F19)	Sandy loam Sandy loam Sandy loam
5-12 12-24 Type: C=Concentration, D=Depletion, RM <b>Hydric Soil Indicators:</b> Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5)	Color (Moist) 7.5YR 5/4 7.5YR 5/6 7.5YR 6/2	100 100 70 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa	Color (Moist) 5YR 4/6 5YR 6/8 and Grains; Location: PL=F ace (S8)	20	Umbric Surface (F Delta Ochric (F17) Reduced Vertic (F Piedmont Floodpla	3) 8) n Soils (F19)	Sandy loam Sandy loam Sandy loam
5-12 12-24 Type: C=Concentration, D=Depletion, RM <b>Hydric Soil Indicators:</b> Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6)	Color (Moist) 7.5YR 5/4 7.5YR 5/6 7.5YR 6/2	100 100 70 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral	Color (Moist) 5YR 4/6 5YR 6/8 and Grains; Location: PL=F ace (S8) 9) (F1)	20	Umbric Surface (F Delta Ochric (F17) Reduced Vertic (F Piedmont Floodpla Anomalous Bright	3) 8) n Soils (F19)	Sandy loam Sandy loam Sandy loam
5-12 12-24 Type: C=Concentration, D=Depletion, RM <b>Hydric Soil Indicators:</b> Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7)	Color (Moist) 7.5YR 5/4 7.5YR 5/6 7.5YR 6/2	100 100 70 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral Loamy Gleyed Matrix	Color (Moist) 5YR 4/6 5YR 6/8 and Grains; Location: PL=F ace (S8) 9) (F1)	20	Umbric Surface (F Delta Ochric (F17) Reduced Vertic (F Piedmont Floodpla Anomalous Bright 1 cm Muck (A9)	13)           8)           n Soils (F19)          amy Soils (F20)	Sandy loam Sandy loam Sandy loam
5-12 12-24 12-24 Type: C=Concentration, D=Depletion, RM <b>Hydric Soil Indicators:</b> Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8)	Color (Moist) 7.5YR 5/4 7.5YR 5/6 7.5YR 6/2	100 100 70 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S9 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3)	Color (Moist) 5YR 4/6 5YR 6/8 and Grains; Location: PL=F ace (S8) 9) (F1) (F2)	20	Umbric Surface (F Delta Ochric (F17) Reduced Vertic (F Piedmont Floodpla Anomalous Bright 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F	3)           8)           n Soils (F19)          amy Soils (F20)           8)	Sandy loam Sandy loam Sandy loam
5-12 2-24 2-24 Type: C=Concentration, D=Depletion, RM Aydric Soil Indicators: distosol (A1) distic Epipedon (A2) Black Histic (A3) dydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) cm Muck (A9)	Color (Moist) 7.5YR 5/4 7.5YR 5/6 7.5YR 6/2	100 100 70 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S9 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface (	Color (Moist) 5YR 4/6 5YR 6/8 and Grains; Location: PL=F ace (S8) 9) (F1) (F2) F6)	20	Umbric Surface (F Delta Ochric (F17) Reduced Vertic (F Piedmont Floodpla Anomalous Bright 1 cm Muck (A9) 2 cm Muck (A10)	8)           coamy Soils (F19)           8)           n Soils (F19)           coamy Soils (F20)	Sandy loam Sandy loam Sandy loam
5-12 12-24 Type: C=Concentration, D=Depletion, RM <b>Hydric Soil Indicators:</b> Histosol (A1) Histic Epipedon (A2) Slack Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11)	Color (Moist) 7.5YR 5/4 7.5YR 5/6 7.5YR 6/2	100 100 70 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S9 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface (	Color (Moist) 5YR 4/6 5YR 6/8 and Grains; Location: PL=F ace (S8) 9) (F1) (F2) F6) e (F7)	20	Umbric Surface (F Delta Ochric (F17) Reduced Vertic (F7) Piedmont Floodpla Anomalous Bright 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F Piedmont Floodpla Anomalous Bright	Image: state	Sandy loam Sandy loam Sandy loam
5-12 12-24 Type: C=Concentration, D=Depletion, RM <b>Hydric Soil Indicators:</b> -listosol (A1) -listic Epipedon (A2) Slack Histic (A3) -Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12)	Color (Moist) 7.5YR 5/4 7.5YR 5/6 7.5YR 6/2	100 100 70 70 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S9 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface ( Redox Depressions (F	Color (Moist) 5YR 4/6 5YR 6/8 and Grains; Location: PL=F ace (S8) 9) (F1) (F2) F6) e (F7)	20	Umbric Surface (F Delta Ochric (F17) Reduced Vertic (F7) Piedmont Floodpla Anomalous Bright 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F Piedmont Floodpla Anomalous Bright Red Parent Materia	8)           n Soils (F19)           .coamy Soils (F20)           8)           n Soils (F19)           .coamy Soils (F19)           .coamy Soils (F19)           .coamy Soils (F19)           .coamy Soils (F19)	Sandy loam Sandy loam Sandy loam
S-12 12-24 Type: C=Concentration, D=Depletion, RM <b>Hydric Soil Indicators:</b> Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) I cm Muck (A9) Depleted Below Dark Surface (A11)	Color (Moist) 7.5YR 5/4 7.5YR 5/6 7.5YR 6/2	100 100 70 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S9 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface (	Color (Moist) 5YR 4/6 5YR 6/8 and Grains; Location: PL=P ace (S8) 9) (F1) (F2) F6) e (F7) F8)	20	Umbric Surface (F Delta Ochric (F17) Reduced Vertic (F7) Piedmont Floodpla Anomalous Bright 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F Piedmont Floodpla Anomalous Bright	8)           n Soils (F19)           .coamy Soils (F20)           8)           n Soils (F19)           .coamy Soils (F19)           .coamy Soils (F19)           .coamy Soils (F19)           .coamy Soils (F19)	Sandy loam Sandy loam Sandy loam

Depleted Ochric (F11)

Iron-Manganese Masses (F12)

Sandy Mucky Mineral (S1)

Sandy Gleyed Matrix (S4)

Туре:

Depth (inches): Remarks:

Restrictive Layer (if observed):

Project: I-495 NEXT Sampling Date: 9/18/2019 Sampling Point: W6-UP

Sampling Point: W6-UP WETLAND DETERMINATION DATA FORM Eastern Mountain and Piedmont

SITE INFORMATION							
Project # & Site:	I-495 NEX	Т	City/County:	Fairfax County		Date:	9/18/2019
Applicant/Owner:	VDOT		State:	Virginia			
Investigator:	KRJ/SS		Section/Township/Range:			Sampling Point:	W6-UP
Landform:	Hillslope		Local Relief:	Convex		Slope (%):	10-15%
Subregion:	LRR P		Lat/Long:	38.942557	-77.205887	Datum:	NAD83
Soil Map Unit Name:						NWI Classification:	N/A
Are climatic/hydrologic conditions on the site	typical for th	is time of year?		Yes		NVVI Classification:	N/A
Are "Normal Circumstances" present?				Yes			
Are Vegetation	No	Soils	No	or Hydrology	No	significantly disturbed?	•
Are Vegetation	No	Soils	No	or Hydrology	No	naturally problematic?	
SUMMARY OF FINDINGS							
Hydrophytic Vegetation Present?		No					
Hydric soils Present?		Yes		ls th	nis Sampling Poir	nt within a Wetland?	No
Wetland Hydrology Present?		No					
Remarks:	D. S. M. M.	n on a steep hillslope abo					
	_						
HYDROLOGY							
Wetland Hydrology Indicators:	-				Secondary Indi		
Primary Indicators :			(20)		Surface Soil Cra	( )	
Surface Water (A1)		Water-stained Leav				ated Concave Surface (B8)	
High Water Table (A2)		Aquatic Fauna (B13			Drainage Pattern		
Saturation (A3)		Marl Deposits (B 15	,		Moss Trim Lines	( )	
Water Marks (B1)		Hydrogen Sulfide O			Dry-Season Wa	. ,	
Sediment Deposits (B2)			eres on Living Roots (C3)		Crayfish Burrow		
Drift Deposits (B3)		Presence of Reduc	. ,			e on Aerial Imagery (C9)	
Algal Mats or Crust (B4)		Recent Iron Reduct	ion in Tilled Soils (C6)		Geomorphic Pos	sition (D2)	
Iron Deposits (B5)		Thin Muck Surface	(C7)		Shallow Aquitare	d (D3)	
Inundation Visible on Aerial Imagery (B7)		Other (Explain in Re	emarks)		FAC-Neutral Tes	st (D5)	
Field Observations:							
Surface Water Present?	No	Depth (inches):					
Water Table Present?	No	Depth (inches):		7	Wetland Hydro	logy Present?	No
Saturation Present?	No	Depth (inches):					
Describe Recorded Data (Stream gauge, mo previous inspection):	onitoring well	, aerial photograph,					

Remarks:

No hydrology indicators observed.

VEGETATION							
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Te	st Worksheet:		
Liriodendron tulipifera	30	Yes	FACU	# Dominant Spe	ecies OBL, FACW, FA	AC:	5
Acer rubrum	15	Yes	FAC	# of Dominant S	Species Across All Str	rata:	10
Carya ovalis	10	No	FACU	Percent Domina	ant Species OBL, FAC	CW, FAC:	50
	55	= Total Cover					
	50% of Total C	over =		28			
50/20 Thresholds:	20% of Total C	over =		11			
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Inc	lex (PI) Worksheet:		
Liriodendron tulipifera	15	Yes	FACU	Total Percent C	over of:		
Acer rubrum	10	Yes	FAC	OBL	0	x1	0
Ulmus americana	5	No	FACW	FACW	10	x2	20
				FAC	60	x3	180
				FACU	90	x4	360
	30	= Total Cover		UPL	0	x5	0
	50% of Total C	over =		15 Total	160		560
50/20 Thresholds:	20% of Total C	over =		<sup>6</sup> PI =	3.5		

Project: I-495 NEXT Sampling Date: 9/18/2019 Sampling Point: W6-UP

WETLAND DETERMINATION DATA FORM

Eastern Mountain and Piedmont

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic V	egetation Indicators		
Ulmus americana		Yes	FACW	1 - Rapid Test	geration		No
Rubus phoenicolasius		Yes	FACU	2 - Dominance	Test is >50%		No
·····,				3 - Prevalence I			No
					Hydrophytic Vegetat	ion	No
				1 1 10biomano	i galopiijilo rogelat		1
	10	= Total Cover					
	50% of Total C			5			
50/20 Thresholds:	20% of Total C			2			
lerb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of V	/egetation Strata:		
Aicrostegium vimineum		Yes	FAC	Tree:	-	ht, 3 in or larger diameter a	
Foxicodendron radicans		Yes	FAC	Sapling:		ght, less than 3 in DBH	
oxiocaonaron radioano		100	1710	Shrub:	3-20 ft in height	gni, ioss than s in DBh	
· · · · · · · · · · · · · · · · · · ·				Herb:	less than 3 ft in height	iht	
				Vine:	,	ji n	
	05	= Total Cover		vine.	all woody vines		
	50% of Total C			17.5			
50/00 The shall be	20% of Total C			7			
50/20 Thresholds:		over =		,			
Voody Vine Stratum	Absolute % Cover	Dominant Species?					
itis aestivalis		Yes	FACU				
onicera japonica	15	Yes	FACU				
							-
	30	= Total Cover					
	50% of Total C	over =			lydrophytic Vegetat	tion Present:	No
50/20 Thresholds:	20% of Total C	cover =		6			
Remarks:							
OILS Profile Description:							
	Martin		Deday Fratures				1
Depth nches	Matrix Color (Moist)	%	Redox Features Color (Moist)	%	Turno	Loc	Texture
I-9	7.5YR 4/2		2.5YR 3/6		Туре	M	Silt Ioam
					C		
-18	7.5YR 6/6	90	2.5YR 4/6	10	C	Μ	Silt Ioam
							<u> </u>
ype: C=Concentration, D=Depletion, F	RM = Reduced Matrix,	CS=Cover or Coated S	Sand Grains; Location: PL	-Pore Lining, M=Matr	ix		
lydric Soil Indicators:		1					
listosol (A1)		Sandy Redox (S5)			Umbric Surface (F1	3)	
listic Epipedon (A2)		Stripped Matrix (S6)			Delta Ochric (F17)		
Black Histic (A3)		Dark Surface (S7)			Reduced Vertic (F1	8)	
lydrogen Sulfide (A4)		Polyvalue Below Surfa	ace (S8)		Piedmont Floodplair	n Soils (F19)	
Stratified Layers (A5)		Thin Dark Surface (S	1 /		Anomalous Bright L		
Drganic Bodies (A6)		Loamy Mucky Mineral	,		1 cm Muck (A9)	,,	
- J (· · - /			× /	1			+

5 cm Mucky Mineral (A7) 2 cm Muck (A10) Loamy Gleyed Matrix (F2) Muck Presence (A8) Depleted Matrix (F3) Reduced Vertic (F18) Х 1 cm Muck (A9) Redox Dark Surface (F6) Piedmont Floodplain Soils (F19) Anomalous Bright Loamy Soils Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Red Parent Material (TF2) Thick Dark Surface (A12) Redox Depressions (F8) Coast Prairie Redox (A16) Marl (F10) Very Shallow Dark Surface (TF12) Other (Explain in Sandy Mucky Mineral (S1) Depleted Ochric (F11) Remarks) Sandy Gleyed Matrix (S4) Iron-Manganese Masses (F12) Restrictive Layer (if observed): Type: Rock Hydric Soils Present: Yes Depth (inches): 18 Remarks: Restrictive layer at 18 inches.

Eastern Mountain and Piedmont

Project:I-495 NEXTSampling Date:9/17/2019Sampling Point:W7-WET

SITE INFORMATION							
Project # & Site:	I-495 NEXT		City/County:	Fairfax County		Date:	9/17/2019
Applicant/Owner:	VDOT		State:	Virginia		†	1 ,
Investigator:	KRJ/SS		Section/Township/Range:			Sampling Point:	W7-WET
Landform:	Level or Nearly	y Level	Local Relief:	None		Slope (%):	0-2%
Subregion:	LRR P		Lat/Long:	38.945444	-77.203249	Datum:	NAD83
Soil Map Unit Name:		am, 0 to 2 percent slop	pes, occasionally flooded				
Are climatic/hydrologic conditions on the site t				Yes		NWI Classification:	N/A
Are "Normal Circumstances" present?	<u></u>			Yes		+	
Are Vegetation	No	Soils	No	or Hydrology	No	significantly disturbed?	
Are Vegetation	No	Soils	No	or Hydrology	No	naturally problematic?	
Alt vogotale.	110	Conc	110	01119211-05	110	Horon cuty process	
SUMMARY OF FINDINGS							
Hydrophytic Vegetation Present?		Yes	1	T			1
Hydric soils Present?		Yes	+	- Is th	nis Sampling Point w	vithin a Wetland?	Yes
Wetland Hydrology Present?		Yes	+	-	15 oanpin.g	Illini a trocia	
	Τ	Tes	<u> </u>				
Remarks:	Point taken ad	ljacent to interstate and	overpass.				I
L							
HYDROLOGY							
Wetland Hydrology Indicators:			1		Secondary Indicate	are .	
	т		+	+	Surface Soil Cracks		
Primary Indicators :		Water-stained Leaves	- (DO)	+		I Concave Surface (B8)	
Surface Water (A1)			3 (Ba)		Drainage Patterns (I		
High Water Table (A2)		Aquatic Fauna (B13)					
Saturation (A3)	┥────	Marl Deposits (B 15)	(2.1)		Moss Trim Lines (B	1	
Water Marks (B1)	┥────	Hydrogen Sulfide Odo			Dry-Season Water		
Sediment Deposits (B2)	<u> </u>		es on Living Roots (C3)	4	Crayfish Burrows (C		
Drift Deposits (B3)	<u> </u>	Presence of Reduced	. ,			n Aerial Imagery (C9)	
Algal Mats or Crust (B4)	<u> </u>	Recent Iron Reduction			Geomorphic Position		Х
Iron Deposits (B5)	<b>_</b>	Thin Muck Surface (C			Shallow Aquitard (D		
Inundation Visible on Aerial Imagery (B7)	<b>_</b>	Other (Explain in Rem	narks)		FAC-Neutral Test (D	)5)	Х
Field Observations:							
Surface Water Present?	No	Depth (inches):	<u> </u>				7
Water Table Present?	No	Depth (inches):			Wetland Hydrology	y Present?	Yes
Saturation Present?	No	Depth (inches):					
Describe Recorded Data (Stream gauge, mor previous inspection):	nitoring well, aer	ial photograph,					
Remarks:			_ <u>L</u>				
VEGETATION							
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Te	est Worksheet:		
Acer rubrum	10	0 yes	FAC	# Dominant Sp	ecies OBL, FACW, FA	AC:	7
Liriodendron tulipifera		5 yes	FACU		Species Across All Str		g
Platanus occidentalis		5 yes	FACW		nant Species OBL, FAC		78
	1		1	1		· ·	· · ·
	1		1	1			
	1	1	1	1			
	20	0 = Total Cover	+	1			
	50% of Total C		10	0			
50/20 Thresholds:	20% of Total C			4			
Sapling Stratum	Absolute %		Indicator Status	-			
	Cover	Dominant openies.	Indicator Status				
N/A	<b></b>		<u> </u>				

0 0

0 = Total Cover

50% of Total Cover = 20% of Total Cover =

50/20 Thresholds:

Project: I-495 NEXT Sampling Date: 9/17/2019 Sampling Point: W7-WET

WETLAND DETERMINATION DATA FORM

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Ve	getation Indicators		
Carex typhina		yes	FACW	1 - Rapid Test	getation indicators	).	No
Eupatorium serotinum		yes	FAC	2 - Dominance 1	est is >50%		Yes
		,		3 - Prevalence I			100
					Hydrophytic Vegetati	on	No
				1 Problematic	iju oprijuo rogotat		
	45	= Total Cover		-			
	50% of Total C		22.	5			
50/20 Thresholds:	20% of Total C			9			
	Absolute %						
Herb Stratum	Cover	Dominant Species?	Indicator Status	Definitions of \	egetation Strata:		
Leersia oryzoides	60	yes	OBL	Tree:	20 ft or more in heig	ht, 3 in or larger diame	eter at DBH
Polygonum hydropiperoides	20	yes	OBL	Sapling:	20 ft or more in heig	ht, less than 3 in DBH	
Onoclea sensibilis	20	yes	FACW	Shrub:	3-20 ft in height		
				Herb:	less than 3 ft in heig	ht	
				Vine:	all woody vines		
	100	= Total Cover					
	50% of Total C		5				
50/20 Thresholds:	20% of Total C	over =	2	0			
Woody Vine Stratum	Absolute %	Dominant Species?	Indicator Status				
•	Cover	•					
Vitis aestivalis	5	yes	FACU	-			
				-			
				-			
				-			
	5	TILO					
		= Total Cover	0	c 11	udrophytic Vocator	ion Broconti	Yee
	50% of Total C	over =	2.5 Hydrophytic Vegetation Present:			Yes	
				1			
SOILS	20% of Total C		not used in determining pre	7 sence of hydrophyt	ic vegetation.		
Remarks: SOILS Profile Description:	20% of Total C		not used in determining pre	T sence of hydrophyt	ic vegetation.		
Remarks: SOILS Profile Description: Depth	20% of Total C Matrix	Prevalence Index was	not used in determining pre			Loc	Texture
Remarks: SOILS Profile Description: Depth Inches	20% of Total C Matrix Color (Moist)	Prevalence Index was	not used in determining pre Redox Features Color (Moist)	%	Туре	Loc	
Remarks: SOILS Profile Description: Depth Inches 0-8	20% of Total C Matrix Color (Moist) 7.5YR 5/1	Prevalence Index was	not used in determining pre Redox Features Color (Moist) 5YR 4/6	% 40	Туре С	Loc M	Texture CL CL
Remarks: SOILS Profile Description: Depth Inches D-8	20% of Total C Matrix Color (Moist)	Prevalence Index was	not used in determining pre Redox Features Color (Moist)	%	Туре С	М	CL
Remarks: SOILS Profile Description: Depth Inches	20% of Total C Matrix Color (Moist) 7.5YR 5/1	Prevalence Index was	not used in determining pre Redox Features Color (Moist) 5YR 4/6	% 40	Туре С	М	CL
Remarks: SOILS Profile Description: Depth Inches D-8	20% of Total C Matrix Color (Moist) 7.5YR 5/1	Prevalence Index was	not used in determining pre Redox Features Color (Moist) 5YR 4/6	% 40	Туре С	М	CL
Remarks: SOILS Profile Description: Depth Inches 0-8	20% of Total C Matrix Color (Moist) 7.5YR 5/1	Prevalence Index was	not used in determining pre Redox Features Color (Moist) 5YR 4/6	% 40	Туре С	М	CL
Remarks: SOILS Profile Description: Depth Inches D-8	20% of Total C Matrix Color (Moist) 7.5YR 5/1 10YR 6/1	Prevalence Index was % 60 50	not used in determining pre Redox Features Color (Moist) 5YR 4/6 5YR 4/6	% 40 50	Type C C	М	CL
Remarks: SOILS Profile Description: Depth Inches 0-8 8-24 Type: C=Concentration, D=Depletion, Rf	20% of Total C Matrix Color (Moist) 7.5YR 5/1 10YR 6/1	Prevalence Index was % 60 50	not used in determining pre Redox Features Color (Moist) 5YR 4/6 5YR 4/6	% 40 50	Type C C	М	CL
Remarks: SOILS Profile Description: Depth nches D-8 3-24 Type: C=Concentration, D=Depletion, RI Hydric Soil Indicators:	20% of Total C Matrix Color (Moist) 7.5YR 5/1 10YR 6/1	Prevalence Index was % 60 50 CS=Cover or Coated S	not used in determining pre Redox Features Color (Moist) 5YR 4/6 5YR 4/6	% 40 50 	Type C C X	M M 	CL
Remarks: SOILS Profile Description: Depth Inches 0-8 8-24 Type: C=Concentration, D=Depletion, R! Hydric Soil Indicators: Histosol (A1)	20% of Total C Matrix Color (Moist) 7.5YR 5/1 10YR 6/1	Prevalence Index was % 60 50 CS=Cover or Coated S Sandy Redox (S5)	not used in determining pre Redox Features Color (Moist) 5YR 4/6 5YR 4/6	% 40 50 	Type C C X Umbric Surface (F1	M M 	CL
Remarks: SOILS Profile Description: Depth nches D-8 3-24 Type: C=Concentration, D=Depletion, RI Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2)	20% of Total C Matrix Color (Moist) 7.5YR 5/1 10YR 6/1	Prevalence Index was % 60 50 CS=Cover or Coated S	not used in determining pre Redox Features Color (Moist) 5YR 4/6 5YR 4/6	% 40 50 	Type C C X	M M 	CL
Remarks: SOILS Profile Description: Depth Inches 0-8 8-24 Type: C=Concentration, D=Depletion, Rt Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3)	20% of Total C Matrix Color (Moist) 7.5YR 5/1 10YR 6/1	Prevalence Index was % 60 50 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6)	not used in determining pre Redox Features Color (Moist) 5YR 4/6 5YR 4/6 and Grains; Location: PL=P	% 40 50 	Type C C X Umbric Surface (F1 Delta Ochric (F17)	M M 3)	CL
Remarks: SOILS Profile Description: Depth nches D-8 3-24 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4)	20% of Total C Matrix Color (Moist) 7.5YR 5/1 10YR 6/1	Prevalence Index was % 60 50 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7)	not used in determining pre Redox Features Color (Moist) 5YR 4/6 5YR 4/6 and Grains; Location: PL=P	% 40 50 	Type C C X Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1	M M 3) B) n Soils (F19)	CL
Remarks: SOILS Profile Description: Depth nches D-8 3-24 Type: C=Concentration, D=Depletion, Rt Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5)	20% of Total C Matrix Color (Moist) 7.5YR 5/1 10YR 6/1	Prevalence Index was % 60 50 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa	not used in determining pre Redox Features Color (Moist) 5YR 4/6 5YR 4/6 and Grains; Location: PL=P	% 40 50 	Type C C X Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplain	M M 3) B) n Soils (F19)	CL
Remarks: SOILS Profile Description: Depth Inches 0-8 3-24 Type: C=Concentration, D=Depletion, RH Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6)	20% of Total C Matrix Color (Moist) 7.5YR 5/1 10YR 6/1	Prevalence Index was % 60 50 50 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S9	not used in determining pre Redox Features Color (Moist) 5YR 4/6 5YR 4/6 and Grains; Location: PL=P ice (S8) 9) (F1)	% 40 50 	Type C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L	M M 3) B) n Soils (F19)	CL
Remarks: SOILS Profile Description: Depth nches D-8 3-24 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7)	20% of Total C Matrix Color (Moist) 7.5YR 5/1 10YR 6/1	Prevalence Index was % 60 50 50 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S9 Loamy Mucky Mineral	not used in determining pre Redox Features Color (Moist) 5YR 4/6 5YR 4/6 and Grains; Location: PL=P ice (S8) 9) (F1)	% 40 50 	Type C C C Multiple X Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9)	M M 3) B) n Soils (F19) parmy Soils (F20)	CL
Remarks: SOILS Profile Description: Depth nches D-8 3-24 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7)	20% of Total C Matrix Color (Moist) 7.5YR 5/1 10YR 6/1	Prevalence Index was % 60 50 50 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S9 Loamy Mucky Mineral Loamy Gleyed Matrix	not used in determining pre Redox Features Color (Moist) 5YR 4/6 5YR 4/6 and Grains; Location: PL=P ace (S8) ) (F1) (F2)	%         40           50         50	Type C C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10)	M M M 3) B) n Soils (F19) oamy Soils (F20) B)	CL
Remarks: SOILS Profile Description: Depth nches 3-24 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) I cm Muck (A9)	20% of Total C Matrix Color (Moist) 7.5YR 5/1 10YR 6/1	Prevalence Index was % 60 50 50 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S9 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3)	not used in determining pre Redox Features Color (Moist) 5YR 4/6 5YR 4/6 and Grains; Location: PL=P ace (S8) 9) (F1) (F2) F6)	%         40           50         50	Type C C C X Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L	M M M M Solis (F19) Soamy Soils (F20) B B Soils (F19) Soamy Soils (F19) Soamy Soils (F19)	CL
Remarks: SOILS Profile Description: Depth nches D-8 3-24 Fype: C=Concentration, D=Depletion, RP Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11)	20% of Total C Matrix Color (Moist) 7.5YR 5/1 10YR 6/1	Prevalence Index was % 60 50 50 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S9 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface (1)	not used in determining pre	%         40           50         50	Type C C C X Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L Red Parent Materia	M M M M Solis (F19) Soamy Soils (F20) B B Soils (F19) Soamy Soils (F19) Soamy Soils (F19) Soamy Soils (F19)	CL
Remarks: SOILS Profile Description: Depth Inches D-8 3-24 Type: C=Concentration, D=Depletion, RP Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12)	20% of Total C Matrix Color (Moist) 7.5YR 5/1 10YR 6/1	Prevalence Index was % 60 50 50 50 50 50 50 50 50 50 50 50 50 50	not used in determining pre	%         40           50         50	Type C C C X Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L	M M M M Solis (F19) Soamy Soils (F20) B B Soils (F19) Soamy Soils (F19) Soamy Soils (F19) Soamy Soils (F19)	CL
Remarks: SOILS Profile Description: Depth Inches D-8 3-24 Type: C=Concentration, D=Depletion, RI Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16)	20% of Total C Matrix Color (Moist) 7.5YR 5/1 10YR 6/1	Prevalence Index was % 60 50 50 50 50 50 50 50 50 50 50 50 50 50	not used in determining pre	%         40           50         50	Type C C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplain Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplain Anomalous Bright L Red Parent Materia Very Shallow Dark S Other (Explain in	M M M M Solis (F19) Soamy Soils (F20) B B Soils (F19) Soamy Soils (F19) Soamy Soils (F19) Soamy Soils (F19)	CL
Remarks: SOILS Profile Description: Depth Inches D-8 8-24 Type: C=Concentration, D=Depletion, RI Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1)	20% of Total C Matrix Color (Moist) 7.5YR 5/1 10YR 6/1	Prevalence Index was % 60 50 50 50 50 50 50 50 50 50 50 50 50 50	not used in determining pre	%         40           50         50	Type C C C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L Red Parent Materia Very Shallow Dark S	M M M M Solis (F19) Soamy Soils (F20) B B Soils (F19) Soamy Soils (F19) Soamy Soils (F19) Soamy Soils (F19)	CL
Remarks: SOILS Profile Description: Depth Inches 0-8 8-24 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8)	20% of Total C Matrix Color (Moist) 7.5YR 5/1 10YR 6/1	Prevalence Index was % 60 50 50 50 50 50 50 50 50 50 50 50 50 50	not used in determining pre	%         40           50         50	Type C C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplain Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplain Anomalous Bright L Red Parent Materia Very Shallow Dark S Other (Explain in	M M M M Solis (F19) Soamy Soils (F20) B B Soils (F19) Soamy Soils (F19) Soamy Soils (F19) Soamy Soils (F19)	CL
Remarks: SOILS Profile Description: Depth Inches D-8 8-24 Type: C=Concentration, D=Depletion, RI Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	20% of Total C Matrix Color (Moist) 7.5YR 5/1 10YR 6/1	Prevalence Index was % 60 50 50 50 50 50 50 50 50 50 50 50 50 50	not used in determining pre	%         40           50         50	Type C C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplain Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplain Anomalous Bright L Red Parent Materia Very Shallow Dark S Other (Explain in	M M M 3) 3) 8) n Soils (F19) oarry Soils (F20) 8) n Soils (F19) oarry Soils (F19) oarry Soils (F19) oarry Soils (TF2) Surface (TF12)	CL

Project:I-495 NEXTSampling Date:9/17/2019Sampling Point:W8-WET

WETLAND DETERMINATION DATA FORM Eastern Mountain and Piedmont

SITE INFORMATION							
Project # & Site:	I-495 NEXT		City/County:	Fairfax County		Date:	9/17/2019
Applicant/Owner:	VDOT		State:	Virginia			
Investigator:	KRJ/SS		Section/Township/Range:			Sampling Point:	W8-WET
Landform:	Level or Nearl	y Level	Local Relief:	Concave		Slope (%):	0-2%
Subregion:	LRR P		Lat/Long:	38.946331	-77.201269	Datum:	NAD83
Soil Map Unit Name:	Codorus silt lo	am, 0 to 2 percent slop	es, occasionally flooded			NWI Classification:	N/A
Are climatic/hydrologic conditions on the site	typical for this til	me of year?		Yes		INWI Classification.	IN/A
Are "Normal Circumstances" present?				Yes			
Are Vegetation	No	Soils	No	or Hydrology	No	significantly disturbed?	
Are Vegetation	No	Soils	No	or Hydrology	drology No naturally problematic?		
SUMMARY OF FINDINGS							
Hydrophytic Vegetation Present?		Yes					
Hydric soils Present?		Yes		ls th	is Sampling Point w	vithin a Wetland?	Yes
Wetland Hydrology Present?		Yes					
Remarks:	Point taken in	small depression adjac	ent to stream.				
HYDROLOGY							
Wetland Hydrology Indicators:					Secondary Indicat	ors :	
Primary Indicators :					Surface Soil Cracks	; (B6)	Х
Surface Water (A1)		Water-stained Leaves	s (B9)	Х	Sparsely Vegetated	Concave Surface (B8)	
High Water Table (A2)		Aquatic Fauna (B13)			Drainage Patterns (	B10)	
Saturation (A3)		Marl Deposits (B 15)			Moss Trim Lines (B	16)	
Water Marks (B1)		Hydrogen Sulfide Odd	or (C1)		Dry-Season Water	Table (C2)	
Sediment Deposits (B2)		Oxidized Rhizosphere	es on Living Roots (C3)		Crayfish Burrows (C	(8)	
Drift Deposits (B3)		Presence of Reduced	I Iron (C4)		Saturation Visible o	n Aerial Imagery (C9)	
Algal Mats or Crust (B4)		Recent Iron Reduction	n in Tilled Soils (C6)		Geomorphic Positio	n (D2)	х
Iron Deposits (B5)		Thin Muck Surface (C	27)		Shallow Aquitard (D	3)	
Inundation Visible on Aerial Imagery (B7)		Other (Explain in Rem	narks)		FAC-Neutral Test (	D5)	Х
Field Observations:							
Surface Water Present?	No	Depth (inches):					
Water Table Present?	No	Depth (inches):			Wetland Hydrolog	y Present?	Yes
Saturation Present?	No	Depth (inches):					
Describe Recorded Data (Stream gauge, mo previous inspection):	onitoring well, ae	rial photograph,		·			
Remarks:							
VEGETATION							

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
Acer rubrum	40	Yes	FAC	# Dominant Species OBL, FACW, FAC: 7
Liriodendron tulipifera	20	Yes	FACU	# of Dominant Species Across All Strata: 9
				Percent Dominant Species OBL, FACW, FAC: 78
	60	= Total Cover		
	50% of Total C	over =		30
50/20 Thresholds:	20% of Total C	over =		12
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status	
Acer rubrum	30	Yes	FAC	
Carya ovalis	5	No	FACU	
Fraxinus pennsylvanica	5	No	FACW	
llex opaca	5	No	FACU	
	45	= Total Cover		—
	50% of Total C	over =	2	2.5
50/20 Thresholds:	20% of Total C	over =		9

Project:I-495 NEXTSampling Date:9/17/2019Sampling Point:W8-WET

WETLAND DETERMINATION DATA FORM

Eastern Mountain and Piedmont

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic V	egetation Indicators	:	
Lindera benzoin	10	Yes	FAC	1 - Rapid Test			No
Fraxinus pennsylvanica	10	Yes	FACW	2 - Dominance	Fest is >50%		Yes
Rosa multiflora	10	Yes	FACU	3 - Prevalence I	ndex is ≤ 3.0		
				4 - Problematic	Hydrophytic Vegetati	on	No
					, , , , , , , , , , , , , , , , , , ,		
	30	= Total Cover					
	50% of Total C		1	5			
50/20 Thresholds:	20% of Total C			6			
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of	/egetation Strata:		
Polygonum pensylvanicum		Yes	FACW	Tree:	-	ht, 3 in or larger diameter at	DBH
Boehmeria cylindrica		Yes	FACW	Sapling:		ht, less than 3 in DBH	
Toxicodendron radicans		Yes	FAC	Shrub:	3-20 ft in height		
				Herb:	less than 3 ft in heig	ht	
				Vine:	all woody vines		
	40	= Total Cover		vine.	all woody vines		
	50% of Total C		2	0			
50/20 Thresholds:	20% of Total C			8			
Woody Vine Stratum	Absolute %	Dominant Species?	Indicator Status				
N/A				-			
				-			
				-			
				-			
	0	- Total Cover					
		= Total Cover		0 H	lydronbytic Vegetat	ion Present.	Vos
	50% of Total C	over =			lydrophytic Vegetat	ion Present:	Yes
50/20 Thresholds:		over =		0 H	lydrophytic Vegetat	ion Present:	Yes
50/20 Thresholds: Remarks:	50% of Total Co 20% of Total Co	over = over =		0		ion Present:	Yes
	50% of Total Co 20% of Total Co	over = over =		0		ion Present:	Yes
Remarks:	50% of Total Co 20% of Total Co	over = over =		0		ion Present:	Yes
Remarks: SOILS	50% of Total Co 20% of Total Co	over = over =		0		ion Present:	Yes
Remarks: SOILS Profile Description:	50% of Total C 20% of Total C	over = over =	not used in determining pre	0		ion Present:	Yes
Remarks: SOILS Profile Description: Depth	50% of Total C 20% of Total C Matrix	over = over = Prevalence Index was	not used in determining pre	o	tic vegetation.		
Remarks: SOILS Profile Description: Depth nches	50% of Total C 20% of Total C Matrix Color (Moist)	over = over = Prevalence Index was %	not used in determining pre Redox Features Color (Moist)	0       sence of hydrophy       %	tic vegetation.	Loc	Texture
Remarks: SOILS Profile Description: Depth nches D-2	50% of Total C 20% of Total C 20% of Total C Matrix Color (Moist) 7.5YR 2.5/1	over = over = Prevalence Index was % %	not used in determining pre Redox Features Color (Moist) 5YR 3/4	0       sence of hydrophy       %       10	tic vegetation.	Loc M	Texture Loamy clay
Remarks: SOILS Profile Description: Depth nches	50% of Total C 20% of Total C Matrix Color (Moist)	over = over = Prevalence Index was % %	not used in determining pre Redox Features Color (Moist)	0       sence of hydrophy       %	tic vegetation.	Loc M	Texture

Type: C=Concentration, D=Depletion, RM = Reduced Matrix, CS=Cover or Coated Sand Grains; Location: PL=Pore Lining, M=Matrix
Hydric, Soil Indicators:

Hydric Soil Indicators:						
Histosol (A1)	Sandy Redox (S5)		Umbric Surface (F13)			
Histic Epipedon (A2)	Stripped Matrix (S6)		Delta Ochric (F17)			
Black Histic (A3)	Dark Surface (S7)		Reduced Vertic (F18)			
Hydrogen Sulfide (A4)	Polyvalue Below Surface (S8)	Polyvalue Below Surface (S8) Piedmont Floodplain Soils (F19)				
Stratified Layers (A5)	Thin Dark Surface (S9)	S9) Anomalous Bright Loamy Soils (F20)				
Organic Bodies (A6)	Loamy Mucky Mineral (F1)		1 cm Muck (A9)			
5 cm Mucky Mineral (A7)	Loamy Gleyed Matrix (F2)		2 cm Muck (A10)			
Muck Presence (A8)	Depleted Matrix (F3)	Х	Reduced Vertic (F18)	Reduced Vertic (F18)		
cm Muck (A9)	Redox Dark Surface (F6)		Piedmont Floodplain Soils (F19)			
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)		Anomalous Bright Loan	Anomalous Bright Loamy Soils		
Thick Dark Surface (A12)	Redox Depressions (F8)		Red Parent Material (T	F2)		
Coast Prairie Redox (A16)	Marl (F10)		Very Shallow Dark Surf	ace (TF12)		
Sandy Mucky Mineral (S1)	Depleted Ochric (F11)		Other (Explain in			
Sandy Gleyed Matrix (S4)	Iron-Manganese Masses (F12)		Remarks)			
Restrictive Layer (if observed):						
Гуре:			Hydric Soils Pres	ent:	Yes	
Depth (inches):						
Remarks:	Rocks present throughout sample					

Project:I-495Sampling Date:9/17/2019Sampling Point:W8-UP

WETLAND DETERMINATION DATA FORM

Project # & Site:	I-495 NEXT		City/County:	Fairfax County		Date:	9/17/2019
Applicant/Owner:	VDOT		State:	Virginia			
Investigator:	KRJ/SS		Section/Township/Range:			Sampling Point:	W8-UP
Landform:	Level or Nearly	/ Level	Local Relief:	None		Slope (%):	0-2%
Subregion:	LRR P		Lat/Long:	38.946341	-77.201449	Datum:	NAD83
Soil Map Unit Name:	Codorus silt lo	am, 0 to 2 percent slop	es, occasionally flooded			NWI Classification:	N/A
Are climatic/hydrologic conditions on the si	te typical for this tir	ne of year?		Yes		INVIT Classification.	N/A
Are "Normal Circumstances" present?				Yes			
Are Vegetation	No	Soils	No	or Hydrology	No	significantly disturbed?	
Are Vegetation	No	Soils	No	or Hydrology	No	naturally problematic?	
SUMMARY OF FINDINGS							
Hydrophytic Vegetation Present?		No					
Hydric soils Present?		No		Is this Sampling Point within a Wetland?		No	
Wetland Hydrology Present?		No					
Remarks:	Point taken in	upland area between st	ream and wetland.				
HYDROLOGY							
Wetland Hydrology Indicators:					Secondary Indicat	tors :	
Primary Indicators :					Surface Soil Cracks	( )	
Surface Water (A1)		Water-stained Leaves	(B9)		Sparsely Vegetated	d Concave Surface (B8)	
High Water Table (A2)		Aquatic Fauna (B13)			Drainage Patterns	(B10)	
		Mari Danasita (D.45)			Massa Taina Lines /F	16)	
Saturation (A3)		Marl Deposits (B 15)			Moss Trim Lines (E	s16)	
Saturation (A3) Water Marks (B1)		Hydrogen Sulfide Odd			Dry-Season Water	,	
		Hydrogen Sulfide Odd	or (C1) es on Living Roots (C3)		· · ·	Table (C2)	
Water Marks (B1)		Hydrogen Sulfide Odd	es on Living Roots (C3)		Dry-Season Water Crayfish Burrows (0	Table (C2)	
Water Marks (B1) Sediment Deposits (B2)		Hydrogen Sulfide Odd Oxidized Rhizosphere	Iron (C4)		Dry-Season Water Crayfish Burrows (0	Table (C2) C8) n Aerial Imagery (C9)	
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mats or Crust (B4) Iron Deposits (B5)		Hydrogen Sulfide Odc Oxidized Rhizosphere Presence of Reduced Recent Iron Reduction Thin Muck Surface (C	is on Living Roots (C3) Iron (C4) n in Tilled Soils (C6) 7)		Dry-Season Water Crayfish Burrows (C Saturation Visible o Geomorphic Position Shallow Aquitard (D	Table (C2) C8) n Aerial Imagery (C9) on (D2) O3)	
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mats or Crust (B4)		Hydrogen Sulfide Odd Oxidized Rhizosphere Presence of Reduced Recent Iron Reduction	is on Living Roots (C3) Iron (C4) n in Tilled Soils (C6) 7)		Dry-Season Water Crayfish Burrows (0 Saturation Visible o Geomorphic Positio	Table (C2) C8) n Aerial Imagery (C9) on (D2) O3)	
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mats or Crust (B4) Iron Deposits (B5)		Hydrogen Sulfide Odc Oxidized Rhizosphere Presence of Reduced Recent Iron Reduction Thin Muck Surface (C	is on Living Roots (C3) Iron (C4) n in Tilled Soils (C6) 7)		Dry-Season Water Crayfish Burrows (C Saturation Visible o Geomorphic Position Shallow Aquitard (D	Table (C2) C8) n Aerial Imagery (C9) on (D2) O3)	
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mats or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	No	Hydrogen Sulfide Odc Oxidized Rhizosphere Presence of Reduced Recent Iron Reduction Thin Muck Surface (C	is on Living Roots (C3) Iron (C4) n in Tilled Soils (C6) 7)		Dry-Season Water Crayfish Burrows (C Saturation Visible o Geomorphic Position Shallow Aquitard (D	Table (C2) C8) n Aerial Imagery (C9) on (D2) O3)	
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mats or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Field Observations:	No No	Hydrogen Sulfide Odd Oxidized Rhizosphere Presence of Reduced Recent Iron Reductior Thin Muck Surface (C Other (Explain in Rem	is on Living Roots (C3) Iron (C4) n in Tilled Soils (C6) 7)		Dry-Season Water Crayfish Burrows (C Saturation Visible o Geomorphic Position Shallow Aquitard (D	Table (C2) C8) in Aerial Imagery (C9) on (D2) D3) D5)	No
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mats or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Field Observations: Surface Water Present?	-	Hydrogen Sulfide Odd Oxidized Rhizosphere Presence of Reduced Recent Iron Reductior Thin Muck Surface (C Other (Explain in Rem Depth (inches):	is on Living Roots (C3) Iron (C4) n in Tilled Soils (C6) 7)		Dry-Season Water Crayfish Burrows (( Saturation Visible o Geomorphic Positic Shallow Aquitard ([ FAC-Neutral Test (	Table (C2) C8) in Aerial Imagery (C9) on (D2) D3) D5)	No
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mats or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Field Observations: Surface Water Present? Water Table Present?	No No	Hydrogen Sulfide Odd Oxidized Rhizosphere Presence of Reduced Recent Iron Reductior Thin Muck Surface (C Other (Explain in Rem Depth (inches): Depth (inches): Depth (inches):	is on Living Roots (C3) Iron (C4) n in Tilled Soils (C6) 7)		Dry-Season Water Crayfish Burrows (( Saturation Visible o Geomorphic Positic Shallow Aquitard ([ FAC-Neutral Test (	Table (C2) C8) in Aerial Imagery (C9) on (D2) D3) D5)	No
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mats or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Field Observations: Surface Water Present? Water Table Present? Saturation Present? Describe Recorded Data (Stream gauge, I	No No	Hydrogen Sulfide Odd Oxidized Rhizosphere Presence of Reduced Recent Iron Reductior Thin Muck Surface (C Other (Explain in Rem Depth (inches): Depth (inches): Depth (inches):	is on Living Roots (C3) Iron (C4) in Tilled Soils (C6) 7) aarks)		Dry-Season Water Crayfish Burrows (( Saturation Visible o Geomorphic Positic Shallow Aquitard ([ FAC-Neutral Test (	Table (C2) C8) in Aerial Imagery (C9) on (D2) D3) D5)	No
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mats or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Field Observations: Surface Water Present? Water Table Present? Water Table Present? Saturation Present? Describe Recorded Data (Stream gauge, I previous inspection):	No No	Hydrogen Sulfide Odd Oxidized Rhizosphere Presence of Reduced Recent Iron Reductior Thin Muck Surface (C Other (Explain in Rem Depth (inches): Depth (inches): Depth (inches): ial photograph,	is on Living Roots (C3) Iron (C4) in Tilled Soils (C6) 7) aarks)		Dry-Season Water Crayfish Burrows (( Saturation Visible o Geomorphic Positic Shallow Aquitard ([ FAC-Neutral Test (	Table (C2) C8) in Aerial Imagery (C9) on (D2) D3) D5)	No
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mats or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Field Observations: Surface Water Present? Water Table Present? Water Table Present? Saturation Present? Describe Recorded Data (Stream gauge, I previous inspection):	No No monitoring well, aer	Hydrogen Sulfide Odd Oxidized Rhizosphere Presence of Reduced Recent Iron Reductior Thin Muck Surface (C Other (Explain in Rem Depth (inches): Depth (inches): Depth (inches): ial photograph,	is on Living Roots (C3) Iron (C4) in Tilled Soils (C6) 7) aarks)		Dry-Season Water Crayfish Burrows (( Saturation Visible o Geomorphic Positic Shallow Aquitard ([ FAC-Neutral Test (	Table (C2) C8) in Aerial Imagery (C9) on (D2) D3) D5)	No
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mats or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Field Observations: Surface Water Present? Water Table Present? Water Table Present? Describe Recorded Data (Stream gauge, I previous inspection): Remarks:	No No	Hydrogen Sulfide Odd Oxidized Rhizosphere Presence of Reduced Recent Iron Reductior Thin Muck Surface (C Other (Explain in Rem Depth (inches): Depth (inches): Depth (inches): ial photograph,	is on Living Roots (C3) Iron (C4) in Tilled Soils (C6) 7) marks) rs observed.	Dominance Te	Dry-Season Water Crayfish Burrows (( Saturation Visible o Geomorphic Positic Shallow Aquitard ([ FAC-Neutral Test (	Table (C2) C8) in Aerial Imagery (C9) on (D2) D3) D5)	No
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mats or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Field Observations: Surface Water Present? Water Table Present? Water Table Present? Saturation Present? Describe Recorded Data (Stream gauge, I previous inspection): Remarks: VEGETATION	No No nonitoring well, aer	Hydrogen Sulfide Odd Oxidized Rhizosphere Presence of Reduced Recent Iron Reductior Thin Muck Surface (C Other (Explain in Rem Depth (inches): Depth (inches): Depth (inches): ial photograph, No hydrology indicator	is on Living Roots (C3) Iron (C4) in Tilled Soils (C6) 7) marks) rs observed.		Dry-Season Water Crayfish Burrows (( Saturation Visible o Geomorphic Positic Shallow Aquitard ([ FAC-Neutral Test ( Wetland Hydrolog	Table (C2) C8) In Aerial Imagery (C9) In (D2) D3) D5) In Present?	No
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mats or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Field Observations: Surface Water Present? Water Table Present? Water Table Present? Describe Recorded Data (Stream gauge, I previous inspection): Remarks: VEGETATION Tree Stratum	No No monitoring well, aer Absolute % Cover 30	Hydrogen Sulfide Odd Oxidized Rhizosphere Presence of Reduced Recent Iron Reductior Thin Muck Surface (C Other (Explain in Rem Depth (inches): Depth (inches): Depth (inches): ial photograph, No hydrology indicator	is on Living Roots (C3) Iron (C4) in Tilled Soils (C6) 7) arks) arks arks arks arks arks arks arks arks	# Dominant Sp	Dry-Season Water Crayfish Burrows (( Saturation Visible o Geomorphic Positic Shallow Aquitard (I FAC-Neutral Test ( Wetland Hydrolog	Table (C2) C8) In Aerial Imagery (C9) In (D2) D3) D5) In Present? AC:	No

		,					-
				Percent Domina	int Species OBL, FAC	CW, FAC:	50
	60	= Total Cover					
	50% of Total Cover =		30				
50/20 Thresholds:	20% of Total C	over =	12				
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Ind	ex (PI) Worksheet:		
Acer rubrum	20	yes	FAC	Total Percent C	over of:		
llex opaca	15	yes	FACU	OBL	0	x1	0
				FACW	0	x2	0
				FAC	90	хЗ	270
				FACU	70	x4	280
	35	= Total Cover		UPL	0	x5	0
	50% of Total C	over =	17.5	Total	160		550
50/20 Thresholds:	20% of Total C	over =	7	PI =	3.4		

Project:I-495Sampling Date:9/17/2019Sampling Point:W8-UP

WETLAND DETERMINATION DATA FORM

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic \	/egetation Indicators:	
Diospyros virginiana	20	yes	FAC	1 - Rapid Test		No
llex vomitoria	10	yes	FAC	2 - Dominance	Test is >50%	No
				3 - Prevalence	Index is ≤ 3.0	No
				4 - Problematio	c Hydrophytic Vegetation	No
	30	= Total Cover				
	50% of Total C	over =	15			
50/20 Thresholds:	20% of Total C	over =	6	5		
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of	Vegetation Strata:	
N/A				Tree:	20 ft or more in height, 3 in or larger diameter at	DBH
				Sapling:	20 ft or more in height, less than 3 in DBH	
				Shrub:	3-20 ft in height	
				Herb:	less than 3 ft in height	
				Vine:	all woody vines	
	0	= Total Cover				
	50% of Total C	over =	0			
50/20 Thresholds:	20% of Total C	over =	C	)		
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status			
Celastrus scandens	10	yes	FACU			
Parthenocissus quinquefolia	10	yes	FACU			
Hedera helix	5	no	FACU			
Smilax rotundifolia		no	FAC			
Toxicodendron radicans	5	no	FAC			
	35	= Total Cover				
	50% of Total C	over =	17.5		Hydrophytic Vegetation Present:	No
50/20 Thresholds:	20% of Total C	over =	7	·		
Remarks:						

SOILS							
Profile Description:							
Depth	Matrix		Redox Features				Texture
Inches	Color (Moist)	%	Color (Moist)	%	Туре	Loc	rexture
0-12	5YR 5/6	100	)				Sandy loam
12-24	5YR 4/6	100	)				Sandy loam
Type: C=Concentration, D=Depletion, F	RM = Reduced Matrix,	CS=Cover or Coated S	Sand Grains; Location: PL=Po	ore Lining, M=Ma	trix		
Hydric Soil Indicators:							
Histosol (A1)		Sandy Redox (S5)			Umbric Surface (F1	3)	
Histic Epipedon (A2)		Stripped Matrix (S6)			Delta Ochric (F17)		
Black Histic (A3)		Dark Surface (S7)			Reduced Vertic (F1	8)	
Hydrogen Sulfide (A4)		Polyvalue Below Surfa	ace (S8)		Piedmont Floodplain	Piedmont Floodplain Soils (F19)	
Stratified Layers (A5)		Thin Dark Surface (SS	9)		Anomalous Bright L	oamy Soils (F20)	
Organic Bodies (A6)		Loamy Mucky Mineral	l (F1)		1 cm Muck (A9)		
5 cm Mucky Mineral (A7)		Loamy Gleyed Matrix	(F2)		2 cm Muck (A10)		
Muck Presence (A8)		Depleted Matrix (F3)			Reduced Vertic (F18)		
1 cm Muck (A9)		Redox Dark Surface (	(F6)		Piedmont Floodplain Soils (F19)		
Depleted Below Dark Surface (A11)		Depleted Dark Surfac	e (F7)		Anomalous Bright L	,	
Thick Dark Surface (A12)		Redox Depressions (F	F8)		Red Parent Material (TF2)		
Coast Prairie Redox (A16)		Marl (F10)			Very Shallow Dark Surface (TF12)		
Sandy Mucky Mineral (S1)		Depleted Ochric (F11)	)		Other (Explain in		
Sandy Gleyed Matrix (S4)		Iron-Manganese Mass	ses (F12)		Remarks)		
Restrictive Layer (if observed):							
					Hydric Soils P	resent:	No
Туре:							

WETLAND DETERMINATION DATA FORM Eastern Mountain and Piedmont Project:I-495 NEXTSampling Date:8/14/2018Sampling Point:W9-WET

SITE INFORMATION	-						-
Project # & Site:	I-495 NEXT		City/County:	Fairfax County		Date:	8/14/2018
Applicant/Owner:	VDOT		State:	Virginia			
Investigator:		ura Cooper, Kyle owler, Emily Onufer	Section/Township/Range:			Sampling Point:	W9-WET
Landform:	Level or Nearly	Level	Local Relief:	None		Slope (%):	0-2
Subregion:	LRR P		Lat/Long:	38.9459	-77.2043	Datum:	NAD83
Soil Map Unit Name:	Codorus silt loa	am, 0 to 2 percent slope	es, occasionally flooded			NWI Classification:	PFO
Are climatic/hydrologic conditions on the site t	typical for this tin	ne of year?		Yes		INWI Classification.	PFO
Are "Normal Circumstances" present?				Yes			
Are Vegetation	No	Soils	No	or Hydrology	No	significantly disturbed?	
Are Vegetation	No	Soils	No	or Hydrology	No	naturally problematic?	
SUMMARY OF FINDINGS							
Hydrophytic Vegetation Present?		Yes					
Hydric soils Present?		Yes		ls th	is Sampling Point w	vithin a Wetland?	Yes
Wetland Hydrology Present?		Yes					
				•			•
Remarks:							
HYDROLOGY							
Wetland Hydrology Indicators:					Secondary Indicate	ors :	1
Primary Indicators :					Surface Soil Cracks		
Surface Water (A1)		Water-stained Leaves	(B9)	х		Concave Surface (B8)	
High Water Table (A2)		Aquatic Fauna (B13)	(-)		Drainage Patterns (		х
Saturation (A3)		Marl Deposits (B 15)			Moss Trim Lines (B		
Water Marks (B1)		Hydrogen Sulfide Odo	r (C1)		Dry-Season Water	1	
Sediment Deposits (B2)			s on Living Roots (C3)	х	Crayfish Burrows (C		
Drift Deposits (B3)	х	Presence of Reduced	•		1	n Aerial Imagery (C9)	
Algal Mats or Crust (B4)	^	Recent Iron Reduction	. ,		Geomorphic Positio		
Iron Deposits (B5)		Thin Muck Surface (C			Shallow Aquitard (D		
Inundation Visible on Aerial Imagery (B7)		Other (Explain in Rem			FAC-Neutral Test (I		х
Field Observations:			,			,	
Surface Water Present?	No	Depth (inches):					
Water Table Present?	No	Depth (inches):		1	Wetland Hydrolog	v Present?	Yes
Saturation Present?	No	Depth (inches):		-	, ,	•	
Describe Recorded Data (Stream gauge, mor previous inspection):		,		4			- <b>!</b>
Remarks:							
VEGETATION							
	Absolute %						
Tree Stratum	Cover	Dominant Species?	Indicator Status	Dominance Te	est Worksheet:		
Acer rubrum	90	yes	FAC	# Dominant Spe	ecies OBL, FACW, FA	AC:	4
				# of Dominant \$	Species Across All St	rata:	5
				Percent Domina	ant Species OBL, FA	CW, FAC:	80
	90	= Total Cover					
	50% of Total C	over =	4	5			
50/20 Thresholds:	20% of Total C	over =	18	3			
Sapling Stratum	Absolute %	Dominant Species?	Indicator Status				
N//A	Cover			-			
N/A	1			4			
	1			4			
	1			-			
	1			-			
	+			-			
	A	- Total Cover					
	0 50% of Total C	= Total Cover	(	)			

Project:I-495 NEXTSampling Date:8/14/2018Sampling Point:W9-WET

WETLAND DETERMINATION DATA FORM

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic V	egetation Indicators		
N/A	Cover			1 - Rapid Test	egetation indicators	).	No
				2 - Dominance	Test is >50%		Yes
				3 - Prevalence I			103
					Hydrophytic Vegetat	ion	No
				4 - Problematic	Tiyuropriyiic vegetat		110
	0	= Total Cover		-			
	50% of Total C		0	)			
50/20 Thresholder	20% of Total C		C				
50/20 Thresholds:	Absolute %						
Herb Stratum	Cover	Dominant Species?	Indicator Status	Definitions of	Vegetation Strata:		
Persicaria virginiana		yes	FAC	Tree:		ht, 3 in or larger diame	eter at DBH
Microstegium vimineum		yes	FAC	Sapling:		ht, less than 3 in DBH	
Leersia oryzoides		yes	OBL	Shrub:	3-20 ft in height	, .,	
Persicaria arifolia		no	OBL	Herb:	less than 3 ft in heig	iht	
Impatiens capensis		no	FACW			,	
Rosa multiflora		no	FACU				
Schedonorus arundinaceus		no	FACU	Vine:	all woody vines		
		= Total Cover		1			
	50% of Total C	ł	42.5	5			
50/20 Thresholds:	20% of Total C		17				
	Absolute %	1					
Woody Vine Stratum	Cover	Dominant Species?	Indicator Status				
Lonicera japonica		yes	FACU	1			
		-		1			
				1			
				-			
				-			
	10	= Total Cover					
	50% of Total C		5	5 F	lydrophytic Vegetat	ion Present:	Yes
	3070 01 10101 0	00001 =			.) al opinjino i ogota		
	20% of Total C	Î.	2 not used in determining pres		tic vegetation.		
Remarks: SOILS	20% of Total C	Î.			tic vegetation.		
	20% of Total C	Î.			tic vegetation.		
Remarks: SOILS Profile Description:		Prevalence Index was	not used in determining pres Redox Features Color (Moist)		tic vegetation.	Loc	Texture
Remarks: SOILS Profile Description: Depth Inches	Matrix	Prevalence Index was	not used in determining pres Redox Features Color (Moist) 5YR 4/6	ence of hydrophy	Туре	Loc M	Texture Silt clay loam
Remarks: SOILS Profile Description: Depth Inches 0-6	Matrix Color (Moist)	Prevalence Index was	not used in determining pres Redox Features Color (Moist)	ence of hydrophy	Type C		
Remarks: SOILS Profile Description: Depth Inches D-6	Matrix Color (Moist) 10YR 5/2	Prevalence Index was	not used in determining pres Redox Features Color (Moist) 5YR 4/6	ence of hydrophy	Type C	M	Silt clay loam
Remarks: SOILS Profile Description: Depth Inches 0-6	Matrix Color (Moist) 10YR 5/2	Prevalence Index was	not used in determining pres Redox Features Color (Moist) 5YR 4/6	ence of hydrophy	Type C	M	Silt clay loam
Remarks: SOILS Profile Description: Depth	Matrix Color (Moist) 10YR 5/2	Prevalence Index was	not used in determining pres Redox Features Color (Moist) 5YR 4/6	ence of hydrophy	Type C	M	Silt clay loam
Remarks: SOILS Profile Description: Depth Inches 0-6 6-12	Matrix Color (Moist) 10YR 5/2 10YR 5/2	Prevalence Index was	not used in determining pres Redox Features Color (Moist) 5YR 4/6 5YR 4/6	ence of hydrophy       %       35       40	Type C C	M	Silt clay loam
Remarks: SOILS Profile Description: Depth Inches 0-6	Matrix Color (Moist) 10YR 5/2 10YR 5/2	Prevalence Index was	not used in determining pres Redox Features Color (Moist) 5YR 4/6 5YR 4/6	ence of hydrophy       %       35       40	Type C C	M	Silt clay loam
Remarks: SOILS Profile Description: Depth Inches 0-6 6-12	Matrix Color (Moist) 10YR 5/2 10YR 5/2	Prevalence Index was	not used in determining pres Redox Features Color (Moist) 5YR 4/6 5YR 4/6	ence of hydrophy       %       35       40	Type C C	M	Silt clay loam
Remarks: SOILS Profile Description: Depth Inches 0-6 6-12 Type: C=Concentration, D=Depletion, RM = Hydric Soil Indicators:	Matrix Color (Moist) 10YR 5/2 10YR 5/2	Prevalence Index was	not used in determining pres Redox Features Color (Moist) 5YR 4/6 5YR 4/6	ence of hydrophy       %       35       40	Type C C	M M	Silt clay loam
Remarks: SOILS Profile Description: Depth Inches 0-6 6-12 Type: C=Concentration, D=Depletion, RM =	Matrix Color (Moist) 10YR 5/2 10YR 5/2	Prevalence Index was	not used in determining pres Redox Features Color (Moist) 5YR 4/6 5YR 4/6	ence of hydrophy       %       35       40	Type C C C ix	M M	Silt clay loam
Remarks: SOILS Profile Description: Depth Inches 0-6 6-12 Type: C=Concentration, D=Depletion, RM = Hydric Soil Indicators: Histosol (A1)	Matrix Color (Moist) 10YR 5/2 10YR 5/2	Prevalence Index was % 65 60 CS=Cover or Coated S Sandy Redox (S5)	not used in determining pres Redox Features Color (Moist) 5YR 4/6 5YR 4/6	ence of hydrophy       %       35       40	Type C C ix Umbric Surface (F1	M M 	Silt clay loam
Remarks: SOILS Profile Description: Depth Inches 0-6 6-12 Type: C=Concentration, D=Depletion, RM = Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2)	Matrix Color (Moist) 10YR 5/2 10YR 5/2	Prevalence Index was % 65 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6)	not used in determining pres Redox Features Color (Moist) 5YR 4/6 5YR 4/6 and Grains; Location: PL=Po	ence of hydrophy       %       35       40	Type C C ix Umbric Surface (F1 Delta Ochric (F17)	M M 3)	Silt clay loam
Remarks: SOILS Profile Description: Depth Inches 0-6 6-12 Type: C=Concentration, D=Depletion, RM = Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4)	Matrix Color (Moist) 10YR 5/2 10YR 5/2	Prevalence Index was % % 65 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7)	not used in determining pres Redox Features Color (Moist) 5YR 4/6 5YR 4/6 and Grains; Location: PL=Po	ence of hydrophy       %       35       40	Type C C ix Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1	M M 3) 8) n Soils (F19)	Silt clay loam
Remarks: SOILS Profile Description: Depth Inches D-6 6-12 Type: C=Concentration, D=Depletion, RM = Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5)	Matrix Color (Moist) 10YR 5/2 10YR 5/2	Prevalence Index was % % 65 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surface	not used in determining pres Redox Features Color (Moist) 5YR 4/6 5YR 4/6 and Grains; Location: PL=Po ice (S8)	ence of hydrophy       %       35       40	Type C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai	M M 3) 8) n Soils (F19)	Silt clay loam
Remarks: SOILS Profile Description: Depth nches D-6 3-12 Type: C=Concentration, D=Depletion, RM = Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6)	Matrix Color (Moist) 10YR 5/2 10YR 5/2	Prevalence Index was % % 65 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5)	not used in determining pres Redox Features Color (Moist) 5YR 4/6 5YR 4/6 and Grains; Location: PL=Po ice (S8) 9) (F1)	ence of hydrophy       %       35       40	Type C C C ix Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L	M M 3) 8) n Soils (F19)	Silt clay loam
Remarks: SOILS Profile Description: Depth nches D-6 3-12 Fype: C=Concentration, D=Depletion, RM = Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7)	Matrix Color (Moist) 10YR 5/2 10YR 5/2	Prevalence Index was % % 65 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5) Loamy Mucky Mineral	not used in determining pres Redox Features Color (Moist) 5YR 4/6 5YR 4/6 and Grains; Location: PL=Po ice (S8) 9) (F1)	ence of hydrophy       %       35       40	Type C C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplain Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1	M M M 3) 8) n Soils (F19) oarry Soils (F20) 8)	Silt clay loam
Remarks: SOILS Profile Description: Depth nches D-6 3-12 Type: C=Concentration, D=Depletion, RM = Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8)	Matrix Color (Moist) 10YR 5/2 10YR 5/2	Prevalence Index was % % 65 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral Loamy Gleyed Matrix	not used in determining pres Redox Features Color (Moist) 5YR 4/6 5YR 4/6 and Grains; Location: PL=Po nce (S8) (F1) (F2)	ence of hydrophy       %       35       40       re Lining, M=Matr	Type C C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10)	M M M 3) 8) n Soils (F19) oarry Soils (F20) 8)	Silt clay loam
Remarks: SOILS Profile Description: Depth nches D-6 5-12 Type: C=Concentration, D=Depletion, RM = Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9)	Matrix Color (Moist) 10YR 5/2 10YR 5/2	Prevalence Index was % % 65 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5) Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3)	not used in determining pres Redox Features Color (Moist) 5YR 4/6 5YR 4/6 and Grains; Location: PL=Po nce (S8) (F1) (F2) F6)	ence of hydrophy       %       35       40       re Lining, M=Matr	Type C C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplain Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1	M M M 3) 3) 8) oamy Soils (F19) oamy Soils (F20) 8) n Soils (F19)	Silt clay loam
Remarks: SOILS Profile Description: Depth nches D-6 5-12 Fype: C=Concentration, D=Depletion, RM = Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11)	Matrix Color (Moist) 10YR 5/2 10YR 5/2	Prevalence Index was % % 65 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface (	not used in determining press         Redox Features         Color (Moist)         5YR 4/6         SYR 4/6         and Grains; Location: PL=Po         ince (S8)         ince (S8)         ince (S8)         ince (S8)         ince (S8)         ince (S8)         ince (S7)	ence of hydrophy       %       35       40       re Lining, M=Matr	Type C C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L Red Parent Materia	M M M M 3) 3) 8) n Soils (F19) oamy Soils (F20) 8) n Soils (F19) oamy Soils (F19) oamy Soils 1 (TF2)	Silt clay loam
Remarks: SOILS Profile Description: Depth Inches D-6 5-12 Type: C=Concentration, D=Depletion, RM = Hydric Soil Indicators: Histosol (A1) Histic Spipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12)	Matrix Color (Moist) 10YR 5/2 10YR 5/2	Prevalence Index was % % 65 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface (S2	not used in determining press         Redox Features         Color (Moist)         5YR 4/6         SYR 4/6         and Grains; Location: PL=Po         ince (S8)         ince (S8)         ince (S8)         ince (S8)         ince (S8)         ince (S8)         ince (S7)	ence of hydrophy       %       35       40       re Lining, M=Matr	Type C C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplaii Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplaii Anomalous Bright L	M M M M 3) 3) 8) n Soils (F19) oamy Soils (F20) 8) n Soils (F19) oamy Soils (F19) oamy Soils 1 (TF2)	Silt clay loam
Remarks: SOILS Profile Description: Depth nches D-6 5-12 Type: C=Concentration, D=Depletion, RM = Hydric Soil Indicators: Histosol (A1) Histic Spipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16)	Matrix Color (Moist) 10YR 5/2 10YR 5/2	Prevalence Index was Prevalence Index was % 65 60 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfat Thin Dark Surface (S2) Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface ( Redox Depressions (F	not used in determining pres Redox Features Color (Moist) 5YR 4/6 5YR 4/6 and Grains; Location: PL=Po and Grains; Location: PL=Po (F1) (F1) (F2) F6) e (F7) F8)	ence of hydrophy       %       35       40       re Lining, M=Matr	Type C C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L Red Parent Materia	M M M M 3) 3) 8) n Soils (F19) oamy Soils (F20) 8) n Soils (F19) oamy Soils (F19) oamy Soils 1 (TF2)	Silt clay loam
Remarks: SOILS Profile Description: Depth nches D-6 5-12 Type: C=Concentration, D=Depletion, RM = Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1)	Matrix Color (Moist) 10YR 5/2 10YR 5/2	Prevalence Index was % % 65 60 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfac Thin Dark Surface (S2) Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface ( Redox Depressions (F Marl (F10)	not used in determining pres Redox Features Color (Moist) 5YR 4/6 5YR 4/6 and Grains; Location: PL=Po (F1) (F2) F6) e (F7) F8)	ence of hydrophy       %       35       40       re Lining, M=Matr	Type C C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L Red Parent Materia Very Shallow Dark S	M M M M 3) 3) 8) n Soils (F19) oamy Soils (F20) 8) n Soils (F19) oamy Soils (F19) oamy Soils 1 (TF2)	Silt clay loam
Remarks: SOILS Profile Description: Depth Inches D-6 6-12 Type: C=Concentration, D=Depletion, RM = Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8)	Matrix Color (Moist) 10YR 5/2 10YR 5/2	Prevalence Index was % 65 60 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfac Thin Dark Surface (S7) Polyvalue Below Surfac Loamy Mucky Mineral Loamy Mucky Mineral Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface ( Depleted Dark Surface ( Marl (F10) Depleted Ochric (F11)	not used in determining pres Redox Features Color (Moist) 5YR 4/6 5YR 4/6 and Grains; Location: PL=Po (F1) (F2) F6) e (F7) F8)	ence of hydrophy       %       35       40       re Lining, M=Matr	Type C C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L Red Parent Materia Very Shallow Dark S Other (Explain in	M M M M 3) 3) 8) n Soils (F19) oamy Soils (F20) 8) n Soils (F19) oamy Soils (F19) oamy Soils 1 (TF2)	Silt clay loam
Remarks: SOILS Profile Description: Depth Inches D-6 5-12 Type: C=Concentration, D=Depletion, RM - Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if observed):	Matrix Color (Moist) 10YR 5/2 10YR 5/2	Prevalence Index was % 65 60 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfac Thin Dark Surface (S7) Polyvalue Below Surfac Loamy Mucky Mineral Loamy Mucky Mineral Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface ( Depleted Dark Surface ( Marl (F10) Depleted Ochric (F11)	not used in determining pres Redox Features Color (Moist) 5YR 4/6 5YR 4/6 and Grains; Location: PL=Po (F1) (F2) F6) e (F7) F8)	ence of hydrophy       %       35       40       re Lining, M=Matr	Type C C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L Red Parent Materia Very Shallow Dark S Other (Explain in	M M M 3) 3) 8) 1 Soils (F19) 0 arry Soils (F20) 8) 1 Soils (F19) 0 arry Soils (F19) 0 arry Soils 1 (TF2) Surface (TF12)	Silt clay loam
Remarks: SOILS Profile Description: Depth nches D-6 3-12 Type: C=Concentration, D=Depletion, RM = Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if observed): Type:	Matrix Color (Moist) 10YR 5/2 10YR 5/2	Prevalence Index was % 65 60 60 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfac Thin Dark Surface (S7) Polyvalue Below Surfac Loamy Mucky Mineral Loamy Mucky Mineral Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface ( Depleted Dark Surface ( Marl (F10) Depleted Ochric (F11)	not used in determining pres Redox Features Color (Moist) 5YR 4/6 5YR 4/6 and Grains; Location: PL=Po (F1) (F2) F6) e (F7) F8)	ence of hydrophy       %       35       40       re Lining, M=Matr	Type C C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L Red Parent Materia Very Shallow Dark S Other (Explain in Remarks)	M M M 3) 3) 8) 1 Soils (F19) 0 arry Soils (F20) 8) 1 Soils (F19) 0 arry Soils (F19) 0 arry Soils 1 (TF2) Surface (TF12)	Silt clay loam Silt clay loam Silt clay loam
Remarks: SOILS Profile Description: Depth nches D-6 5-12 Fype: C=Concentration, D=Depletion, RM - Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) I cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if observed):	Matrix Color (Moist) 10YR 5/2 10YR 5/2	Prevalence Index was % % % % % % % % % % % % % % % % % % %	not used in determining pres Redox Features Color (Moist) 5YR 4/6 5YR 4/6 and Grains; Location: PL=Po (F1) (F2) F6) e (F7) F8)	ence of hydrophy       %       35       40       re Lining, M=Matr	Type C C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L Reduced Vertic (F1 Piedmont Floodplair Anomalous Bright L Red Parent Materia Very Shallow Dark S Other (Explain in Remarks)	M M M 3) 3) 8) 1 Soils (F19) 0 arry Soils (F20) 8) 1 Soils (F19) 0 arry Soils (F19) 0 arry Soils 1 (TF2) Surface (TF12)	Silt clay loam Silt clay loam Silt clay loam

Eastern Mountain and Piedmont

Project: I-495 NEXT Sampling Date: 9/18/2019 Sampling Point: W9-UP1

SITE INFORMATION Project # & Site: I-495 NEXT City/County: Fairfax County Date: 9/18/2019 VDOT Virginia Applicant/Owner: State: Sampling Point: W9-UP1 KRJ/SS Investigator: Section/Township/Range: Hillslope Local Relief: Convex 8-10% Landform: Slope (%): Lat/Long: Subregion: LRR P 38.946192 -77.202679 Datum: NAD83 Soil Map Unit Name: Codorus silt loam, 0 to 2 percent slopes, occasionally flooded NWI Classification: N/A Are climatic/hydrologic conditions on the site typical for this time of year? Yes Are "Normal Circumstances" present? Yes No Are Vegetation No Soils or Hydrology No significantly disturbed? No naturally problematic? Are Vegetation Soils No or Hydrology No 

SOMMART OF FINDINGS					
Hydrophytic Vegetation Present?		No			
Hydric soils Present?		No		Is this Sampling Point within a Wetland?	No
Wetland Hydrology Present?		No			
Remarks:	Point taken dov	vnslope from soundwal	I outside powerline easement,	wetland located in easement to the north.	

HYDROLOGY						
Wetland Hydrology Indicators:				Secondary Indicators :		
Primary Indicators :				Surface Soil Cracks (B6)		
Surface Water (A1)		Water-stained Leav	es (B9)	Sparsely Vegetated Concave Surface (B8)		
High Water Table (A2)		Aquatic Fauna (B13	s)	Drainage Patterns (B10)		
Saturation (A3)		Marl Deposits (B 15	i)	Moss Trim Lines (B16)		
Water Marks (B1)		Hydrogen Sulfide O	dor (C1)	Dry-Season Water Table (C2)		
Sediment Deposits (B2)		Oxidized Rhizosphe	res on Living Roots (C3)	Crayfish Burrows (C8)		
Drift Deposits (B3)		Presence of Reduce	ed Iron (C4)	Saturation Visible on Aerial Imagery (C9)		
Algal Mats or Crust (B4)		Recent Iron Reduct	ion in Tilled Soils (C6)	Geomorphic Position (D2)		
Iron Deposits (B5)		Thin Muck Surface	(C7)	Shallow Aquitard (D3)		
Inundation Visible on Aerial Imagery (B7)		Other (Explain in Re	emarks)	FAC-Neutral Test (D5)		
Field Observations:						
Surface Water Present?	No	Depth (inches):				
Water Table Present?	No	Depth (inches):		Wetland Hydrology Present?	No	
Saturation Present?	No	Depth (inches):				
Describe Recorded Data (Stream gauge, m previous inspection):	ionitoring we	I, aerial photograph,			-	
Remarks:						

VEGETATION								
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance T	est Worksheet:			
N/A				# Dominant S	# Dominant Species OBL, FACW, FAC:			
				# of Dominant	Species Across All Str	ata:	6	
				Percent Domi	nant Species OBL, FA	CW, FAC:	50	
	C	0 = Total Cover						
	50% of Total C	Cover =		0				
50/20 Thresholds:	20% of Total C	over =		0				
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Ir	dex (PI) Worksheet:			
Robinia pseudoacacia	10	) yes	FACU	Total Percent	Cover of:			
				OBL	0	x1	0	
				FACW	5	x2	10	
				FAC	90	хЗ	270	
				FACU	35	x4	140	
	10	0 = Total Cover		UPL	0	x5	0	
	50% of Total C	Cover =		5 Total	130		420	
50/20 Thresholds:	20% of Total C	cover =		<sup>2</sup> PI =	3.2			

Project: I-495 NEXT Sampling Date: 9/18/2019 Sampling Point: W9-UP1

WETLAND DETERMINATION DATA FORM

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophyti	Hydrophytic Vegetation Indicators:			
Solidago canadensis	20	yes	FACU	1 - Rapid Te	est	No		
Lespedeza cuneata	5	yes	FACU		nce Test is >50%	No		
		-		3 - Prevaler	3 - Prevalence Index is ≤ 3.0 No			
				4 - Problem	atic Hydrophytic Vegetation	No		
						•		
	25	= Total Cover						
	50% of Total C	over =	1	2.5				
50/20 Thresholds:	20% of Total C	over =		5				
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Definitions	Definitions of Vegetation Strata:			
Arthraxon hispidus	40	yes	FAC	Tree:	Tree: 20 ft or more in height, 3 in or larger diameter at DBH			
Microstegium vimineum		yes	FAC	Sapling:	20 ft or more in height, less than 3 in DBH			
Eupatorium serotinum	20	yes	FAC	Shrub:	3-20 ft in height			
luncus effusus	5	no	FACW	Herb:	less than 3 ft in height			
				Vine:	all woody vines			
	95	= Total Cover						
	50% of Total C	over =	4	17.5				
50/20 Thresholds:	20% of Total C	over =		19				
Noody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status					
N/A								
	0	= Total Cover						
	50% of Total C			0	Hydrophytic Vegetation Bresent:	No		
	20% of Total C			0 Hydrophytic Vegetation Present:				
50/20 Thresholds:	20% 01 101810			-				
Remarks:								

SOILS							
Profile Description:							
Depth	Matrix		Redox Features			Texture	
Inches	Color (Moist)	%	Color (Moist)	%	Туре	Loc	Texture
0-10	7.5YR 5/6	100	)				Clay loam
10-12	7.5YR 6/8	100	)				Clay loam
Type: C=Concentration, D=Depletion,	RM = Reduced Matrix,	CS=Cover or Coated S	Sand Grains; Location: PL=P	ore Lining, N	1=Matrix		
Hydric Soil Indicators:				-			
Histosol (A1)		Sandy Redox (S5)		_	Umbric Surface (F	-1	
Histic Epipedon (A2)		Stripped Matrix (S6)			Delta Ochric (F17)		
Black Histic (A3)		Dark Surface (S7)			Reduced Vertic (F	,	
Hydrogen Sulfide (A4)		Polyvalue Below Surfa			Piedmont Floodpla	( )	
Stratified Layers (A5)		Thin Dark Surface (S	- /	_	0	Loamy Soils (F20)	
Organic Bodies (A6)		Loamy Mucky Mineral			1 cm Muck (A9)		
5 cm Mucky Mineral (A7)		Loamy Gleyed Matrix	(F2)		2 cm Muck (A10)		
Muck Presence (A8)		Depleted Matrix (F3)			Reduced Vertic (F18)		
1 cm Muck (A9)		Redox Dark Surface (	(F6)			Piedmont Floodplain Soils (F19)	
Depleted Below Dark Surface (A11)		Depleted Dark Surfac	( )		9	Anomalous Bright Loamy Soils	
Thick Dark Surface (A12)		Redox Depressions (I	F8)			Red Parent Material (TF2)	
Coast Prairie Redox (A16)		Marl (F10)			Very Shallow Dark	Surface (TF12)	
Sandy Mucky Mineral (S1)		Depleted Ochric (F11	)		Other (Explain in		
		Iron-Manganese Masses (F12)			Remarks)		
Sandy Gleyed Matrix (S4)		ITOIT Manganese Mas	( )				
Restrictive Layer (if observed):		Inon Manganese Mas	X /	_			
	Rock 12	non wanganese was		_	Hydric Soils	Present:	No

Eastern Mountain and Piedmont

Project:I-495 NEXTSampling Date:9/18/2019Sampling Point:W9-UP2

SITE INFORMATION I-495 NEXT Fairfax County 9/18/2019 Project # & Site: City/County: Date: VDOT Applicant/Owner: State: Virginia Sampling Point: W9-UP2 Investigator: KRJ/SS Section/Township/Range: evel or Nearly Level Local Relief: None 0-2% andform: Slope (%): Subregion: LRR P Lat/Long: 38.9482 -77.202119 NAD83 Datum: Soil Map Unit Name: Codorus silt loam, 0 to 2 percent slopes, occasionally flooded N/A NWI Classification: Are climatic/hydrologic conditions on the site typical for this time of year? Yes Are "Normal Circumstances" present? Yes Are Vegetation No Soils No or Hydrology No significantly disturbed? Are Vegetation No Soils No or Hydrology No naturally problematic? SUMMARY OF FINDINGS Hydrophytic Vegetation Present? No Hydric soils Present? No Is this Sampling Point within a Wetland? No Wetland Hydrology Present? No Remarks: Point taken between wetland boundary and stream. HYDROLOGY Wetland Hydrology Indicators: Secondary Indicators Surface Soil Cracks (B6) Primary Indicators Sparsely Vegetated Concave Surface (B8) Surface Water (A1) Water-stained Leaves (B9) Aquatic Fauna (B13) Drainage Patterns (B10) High Water Table (A2) Saturation (A3) Marl Deposits (B 15) Moss Trim Lines (B16) Water Marks (B1) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Crayfish Burrows (C8) Sediment Deposits (B2) Presence of Reduced Iron (C4) Drift Deposits (B3) Saturation Visible on Aerial Imagery (C9) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Algal Mats or Crust (B4) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Other (Explain in Remarks) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Field Observations: Surface Water Present? No Depth (inches): Wetland Hydrology Present? Water Table Present? No Depth (inches): No Saturation Present? No Depth (inches): Describe Recorded Data (Stream gauge, monitoring well, aerial photograph, previous inspection): Remarks: VEGETATION Absolute % Tree Stratum Dominant Species? Indicator Status Dominance Test Worksheet:

	Cover	Dominant Opecies:	indicator otatus				
Liriodendron tulipifera	50	Yes	FACU	# Dominant Sp	ecies OBL, FACW, FA	C:	4
Acer rubrum	20	Yes	FAC	# of Dominant	Species Across All Str	ata:	8
Fraxinus pennsylvanica	5	No	FACW	Percent Domin	ant Species OBL, FAC	W, FAC:	50
	75	= Total Cover					
	50% of Total C	over =		38			
50/20 Thresholds:	20% of Total C	cover =		15			
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index (PI) Worksheet:			
Cornus florida	10	Yes	FACU Total Percent Cover of:				
				OBL	0	x1	0
				FACW	5	x2	10
				FAC	50	х3	150
				FACU	80	x4	320
	10	= Total Cover		UPL	0	x5	0
	50% of Total C	cover =		5 Total	135		480
50/20 Thresholds:	20% of Total C	over =		<sup>2</sup> PI =	3.6		

Project: I-495 NEXT Sampling Date: 9/18/2019 Sampling Point: W9-UP2

WETLAND DETERMINATION DATA FORM

N/A				1 - Rapid	ytic Vegetation Indicators: Test	No	
				1 - Rapid Test			
				2 - Domin	ance Test is >50%	No	
				3 - Preval	lence Index is ≤ 3.0	No	
				4 - Proble	matic Hydrophytic Vegetation	No	
	0	= Total Cover					
	50% of Total C	over =		0			
50/20 Thresholds:	20% of Total C	over =		0			
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Definitior	Definitions of Vegetation Strata:		
Polygonum virginianum	10	Yes	FAC	Tree:	20 ft or more in height, 3 in or larger diameter	at DBH	
Lindera benzoin	5	Yes	FAC	Sapling:	20 ft or more in height, less than 3 in DBH		
				Shrub:	3-20 ft in height		
				Herb:	less than 3 ft in height		
				Vine:	all woody vines		
	15	= Total Cover					
	50% of Total C	over =		7.5			
50/20 Thresholds:	20% of Total C	over =		3			
Noody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status				
Lonicera japonica	10	Yes	FACU				
Toxicodendron radicans	10	Yes	FAC				
Vitis aestivalis	10	Yes	FACU				
Smilax rotundifolia	5	No	FAC				
	35	= Total Cover					
	50% of Total C	over =	1	7.5	Hydrophytic Vegetation Present:	No	
50/20 Thresholds:	20% of Total C	over =		7			
Remarks:							

Depth	Matrix		Redox Features				
Inches	Color (Moist)	%	Color (Moist)	%	Туре	Loc	Texture
0-8	7.5YR 5/4	100					Sandy loam
8-24	7.5YR 5/2	100					Sandy loam
Type: C=Concentration, D=Depletion, R	M = Reduced Matrix,	CS=Cover or Coated S	and Grains; Location:	PL=Pore Lining, N	M=Matrix		
Hydric Soil Indicators:	,		,	0,			
Histosol (A1)		Sandy Redox (S5)			Umbric Surface	e (F13)	
Histic Epipedon (A2)		Stripped Matrix (S6)			Delta Ochric (F	Delta Ochric (F17)	
Black Histic (A3)		Dark Surface (S7)			Reduced Vertic	(F18)	
Hydrogen Sulfide (A4)		Polyvalue Below Surfa	ace (S8)		Piedmont Floor	Piedmont Floodplain Soils (F19)	
Stratified Layers (A5)		Thin Dark Surface (S9)			Anomalous Brig	ht Loamy Soils (F20)	
Organic Bodies (A6)		Loamy Mucky Mineral	(F1)		1 cm Muck (A9	)	
5 cm Mucky Mineral (A7)		Loamy Gleyed Matrix	(F2)		2 cm Muck (A10)		
Muck Presence (A8)		Depleted Matrix (F3)			Reduced Vertic (F18)		
1 cm Muck (A9)		Redox Dark Surface (	F6)		Piedmont Floor		
Depleted Below Dark Surface (A11)		Depleted Dark Surfac	e (F7)		Anomalous Brig		
Thick Dark Surface (A12)		Redox Depressions (F	-8)		Red Parent Ma	Red Parent Material (TF2)	
Coast Prairie Redox (A16)		Marl (F10)			Very Shallow D	ark Surface (TF12)	
Sandy Mucky Mineral (S1)		Depleted Ochric (F11)	)		Other (Explain	n	
Sandy Gleyed Matrix (S4)		Iron-Manganese Mass	ses (F12)		Remarks)		
Restrictive Layer (if observed):							
Туре:					Hydric Soi	Is Present:	No
Depth (inches):							

Eastern Mountain and Piedmont

Project: I-495 NEXT Sampling Date: 9/18/2019 Sampling Point: W10-UP1

SITE INFORMATION Project # & Site: I-495 NEXT City/County: Fairfax County Date: 9/18/2019 VDOT Virginia Applicant/Owner: State: Sampling Point: W10-UP1 Investigator: KRJ/SS Section/Township/Range: None Hillslope Local Relief: 2-4% Landform: Slope (%): Subregion: LRR P Lat/Long: 38.950598 -77.198741 Datum: NAD83 Wheaton-Glenelg complex, 7 to 15 percent slopes Soil Map Unit Name: NWI Classification: N/A Are climatic/hydrologic conditions on the site typical for this time of year? Yes Are "Normal Circumstances" present? Yes No Are Vegetation No Soils or Hydrology No significantly disturbed? naturally problematic? Are Vegetation No Soils No or Hydrology No

SUMMARY OF FINDINGS					
Hydrophytic Vegetation Present?		No			
Hydric soils Present?		Yes		Is this Sampling Point within a Wetland?	No
Wetland Hydrology Present?		No			
Remarks:	Point taken ups	slope to the northeast o	of Dominion Energy plant, just o	outside power easement. Potentially disturbed due to maintenance	of easement.

HYDROLOGY					
Wetland Hydrology Indicators:				Secondary Indicators :	
Primary Indicators :				Surface Soil Cracks (B6)	
Surface Water (A1)		Water-stained Leav	ves (B9)	Sparsely Vegetated Concave Surface (B	38)
High Water Table (A2)		Aquatic Fauna (B13	3)	Drainage Patterns (B10)	
Saturation (A3)		Marl Deposits (B 15	5)	Moss Trim Lines (B16)	
Water Marks (B1)		Hydrogen Sulfide O	odor (C1)	Dry-Season Water Table (C2)	
Sediment Deposits (B2)		Oxidized Rhizosphe	eres on Living Roots (C3)	Crayfish Burrows (C8)	
Drift Deposits (B3)		Presence of Reduc	ed Iron (C4)	Saturation Visible on Aerial Imagery (C9)	)
Algal Mats or Crust (B4)		Recent Iron Reduct	ion in Tilled Soils (C6)	Geomorphic Position (D2)	
Iron Deposits (B5)		Thin Muck Surface	(C7)	Shallow Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)		Other (Explain in Re	emarks)	FAC-Neutral Test (D5)	
Field Observations:					
Surface Water Present?	No	Depth (inches):			
Water Table Present?	No	Depth (inches):		Wetland Hydrology Present?	No
Saturation Present?	No	Depth (inches):			
Describe Recorded Data (Stream gauge, m previous inspection):	nonitoring we	ll, aerial photograph,			
Remarks:					

VEGETATION							
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance To	est Worksheet:		
N/A				# Dominant Sp	ecies OBL, FACW, FA	AC:	2
				# of Dominant	Species Across All Str	ata:	7
				Percent Domin	nant Species OBL, FAC	CW, FAC:	29
	C	0 = Total Cover					
	50% of Total C	Cover =		0			
50/20 Thresholds:	20% of Total C	Cover =		0			
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence In	dex (PI) Worksheet:		
Robinia pseudoacacia	10	) yes	FACU	Total Percent	Cover of:		
				OBL	0	x1	0
		1		FACW	0	x2	0
				FAC	90	x3	270
				FACU	55	x4	220
	10	0 = Total Cover		UPL	30	x5	150
	50% of Total C	Cover =		5 Total	175		640
50/20 Thresholds:	20% of Total C	Cover =		2 PI =	3.7		

Project:I-495 NEXTSampling Date:9/18/2019Sampling Point:W10-UP1

WETLAND DETERMINATION DATA FORM

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic	Vegetation Indicators	:	
Solidago canadensis	5	yes	FACU	1 - Rapid Te	st		No
				2 - Dominano	2 - Dominance Test is >50% 3 - Prevalence Index is ≤ 3.0		No
				3 - Prevalence			No
				4 - Problema	tic Hydrophytic Vegetat	on	No
	5	= Total Cover					
	50% of Total C	over =		2.5			
50/20 Thresholds:	20% of Total C	over =		1			
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Definitions	of Vegetation Strata:		
Paspalum notatum	30	yes	FACU	Tree:	20 ft or more in heig	ht, 3 in or larger diamete	er at DBH
Setaria faberi	10	yes	UPL	Sapling:		ht, less than 3 in DBH	
Verbesina alternifolia	10	yes	FAC	Shrub:	3-20 ft in height	,	
				Herb:	less than 3 ft in heig	ht	
				Vine:	all woody vines		
	50	= Total Cover					
	50% of Total C			25			
50/20 Thresholds:	20% of Total C			10			
Voody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status				
Polygonum perfoliatum	80	yes	FAC				
Vitis aestivalis		yes	FACU				
		,					
	90	= Total Cover					
	50% of Total C			45	Hydrophytic Vegetat	ion Present:	No
50/20 Thresholds: Remarks:	50% of Total C 20% of Total C	over =		45 18	Hydrophytic Vegeta	ion Present:	No
Remarks: SOILS		over =			Hydrophytic Vegeta	ion Present:	No
Remarks: SOILS	20% of Total C	over =			Hydrophytic Vegeta	ion Present:	No
Remarks: SOILS Profile Description: Depth	20% of Total C Matrix	over =	Redox Features	18			
Remarks: SOILS Profile Description: Depth nches	20% of Total C Matrix Color (Moist)	over =	Color (Moist)		Туре	Loc	Texture
Remarks: SOILS Profile Description: Depth nches D-3	20% of Total C 20% of Total C Matrix Color (Moist) 10YR 3/1	over = over = % % 80	Color (Moist) 5YR 4/6	18			Texture Sandy loam
Remarks: SOILS Profile Description: Depth nches D-3 3-10	20% of Total C 20% of Total C Matrix Color (Moist) 10YR 3/1 5YR 4/4	over = over = % % 80 100	Color (Moist) 5YR 4/6	18	Туре	Loc	Texture Sandy loam Sandy loam
Remarks: SOILS Profile Description: Depth Inches 0-3 3-10 10-20	20% of Total C 20% of Total C Matrix Color (Moist) 10YR 3/1 5YR 4/4 2.5YR 4/8	over = over = % % 80 100 100	Color (Moist) 5YR 4/6	18	Туре	Loc	Texture Sandy loam Sandy loam Clay loam
Remarks: SOILS Profile Description: Depth Inches 0-3 3-10 10-20	20% of Total C 20% of Total C Matrix Color (Moist) 10YR 3/1 5YR 4/4	over = over = % % 80 100	Color (Moist) 5YR 4/6	18	Туре	Loc	Texture Sandy loam Sandy loam
Remarks: SOILS Profile Description: Depth	20% of Total C 20% of Total C Matrix Color (Moist) 10YR 3/1 5YR 4/4 2.5YR 4/8	over = over = % % 80 100 100	Color (Moist) 5YR 4/6	18	Туре	Loc	Texture Sandy loam Sandy loam Clay loam
Remarks: SOILS Profile Description: Depth nches 0-3 3-10 10-20 20-24	Matrix Color (Moist) 10YR 3/1 5YR 4/4 2.5YR 4/8 2.5YR 5/8	over = over = % % 80 100 100 100	Color (Moist) 5YR 4/6	18 %	Type 20 C	Loc	Texture Sandy loam Sandy loam Clay loam
Remarks: SOILS Profile Description: Depth Inches 0-3 3-10 10-20 20-24 Type: C=Concentration, D=Depletion, RM	Matrix Color (Moist) 10YR 3/1 5YR 4/4 2.5YR 4/8 2.5YR 5/8	over = over = % % 80 100 100 100	Color (Moist) 5YR 4/6	18 %	Type 20 C	Loc	Texture Sandy loam Sandy loam Clay loam
Remarks: SOILS Profile Description: Depth Inches 0-3 3-10 10-20 20-24 Type: C=Concentration, D=Depletion, RI Hydric Soil Indicators:	Matrix Color (Moist) 10YR 3/1 5YR 4/4 2.5YR 4/8 2.5YR 5/8	over = over = % 80 80 100 100 100 100 CS=Cover or Coated S	Color (Moist) 5YR 4/6	18 %	Type 20 C	Loc M	Texture Sandy loam Sandy loam Clay loam
Remarks: SOILS Profile Description: Depth nches 0-3 3-10 10-20 20-24 Type: C=Concentration, D=Depletion, RI Hydric Soil Indicators: Histosol (A1)	Matrix Color (Moist) 10YR 3/1 5YR 4/4 2.5YR 4/8 2.5YR 5/8	over = over = % % 80 100 100 100 CS=Cover or Coated S Sandy Redox (S5)	Color (Moist) 5YR 4/6	18 %	Type 20 C latrix Umbric Surface (F1	Loc M	Texture Sandy loam Sandy loam Clay loam
Remarks: SOILS Profile Description: Depth Inches 0-3 3-10 10-20 20-24 Type: C=Concentration, D=Depletion, Rt Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2)	Matrix Color (Moist) 10YR 3/1 5YR 4/4 2.5YR 4/8 2.5YR 5/8	over = over = % % 80 100 100 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6)	Color (Moist) 5YR 4/6	18 %	Type 20 C latrix Umbric Surface (F1 Delta Ochric (F17)	Loc M 	Texture Sandy loam Sandy loam Clay loam
Remarks: SOILS Profile Description: Depth nches 0-3 3-10 10-20 20-24 Type: C=Concentration, D=Depletion, Rt Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3)	Matrix Color (Moist) 10YR 3/1 5YR 4/4 2.5YR 4/8 2.5YR 5/8	over = over = % % 80 100 100 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7)	Color (Moist) 5YR 4/6	18 %	Type 20 C latrix Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1	Loc M 	Texture Sandy loam Sandy loam Clay loam
Remarks: SOILS Profile Description: Depth nches 0-3 3-10 10-20 20-24 Type: C=Concentration, D=Depletion, Rt Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4)	Matrix Color (Moist) 10YR 3/1 5YR 4/4 2.5YR 4/8 2.5YR 5/8	over = over = % % 80 100 100 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa	Color (Moist) 5YR 4/6 and Grains; Location: PL=	18 %	Type 20 C latrix Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplain	Loc M 3) 8) 50ils (F19)	Texture Sandy loam Sandy loam Clay loam
Remarks: SOILS Profile Description: Depth nches 0-3 3-10 10-20 20-24 Fype: C=Concentration, D=Depletion, RH Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5)	Matrix Color (Moist) 10YR 3/1 5YR 4/4 2.5YR 4/8 2.5YR 5/8	over = over =	Color (Moist) 5YR 4/6 and Grains; Location: PL ace (S8)	18 %	Type 20 C 20 C 4atrix Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L	Loc M 3) 8) 50ils (F19)	Texture Sandy loam Sandy loam Clay loam
Remarks: SOILS Profile Description: Depth nches 0-3 3-10 10-20 20-24 Fype: C=Concentration, D=Depletion, RH Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6)	Matrix Color (Moist) 10YR 3/1 5YR 4/4 2.5YR 4/8 2.5YR 5/8	over = over =	Color (Moist) 5YR 4/6 sand Grains; Location: PL= ace (S8) (F1)	18 %	Type 20 C 20 C I I I I I I I I I I I I I	Loc M 3) 8) 50ils (F19)	Texture Sandy loam Sandy loam Clay loam
Remarks: SOILS Profile Description: Depth Inches 0-3 3-10 10-20 20-24 Type: C=Concentration, D=Depletion, RP Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7)	Matrix Color (Moist) 10YR 3/1 5YR 4/4 2.5YR 4/8 2.5YR 5/8	over = over = % % 80 100 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S2 Loamy Mucky Mineral Loamy Gleyed Matrix	Color (Moist) 5YR 4/6 sand Grains; Location: PL= ace (S8) (F1)	18 % = Pore Lining, M=N	Type 20 C 20 C 1 1 1 1 1 1 2 2 20 C 2 2 2 2 2 2 2 2 2 2 2 2 2	Loc M 3) B) n Soils (F19) poamy Soils (F20)	Texture Sandy loam Sandy loam Clay loam
Remarks: SOILS Profile Description: Depth nches 0-3 3-10 10-20 20-24 Fype: C=Concentration, D=Depletion, RH Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8)	Matrix Color (Moist) 10YR 3/1 5YR 4/4 2.5YR 4/8 2.5YR 5/8	over = over = % % 80 100 100 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3)	Color (Moist) 5YR 4/6 sand Grains; Location: PL= ace (S8) (F1) (F2)	18 %	Type 20 C 4 Intrix Matrix Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1	Loc M 3) Soils (F19) oamy Soils (F20)	Texture Sandy loam Sandy loam Clay loam
Remarks: SOIL S Profile Description: Depth nches 0-3 3-10 10-20 20-24 Fype: C=Concentration, D=Depletion, RP Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) I cm Muck (A9)	Matrix Color (Moist) 10YR 3/1 5YR 4/4 2.5YR 4/8 2.5YR 5/8	over = over = % % 80 100 100 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S2 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface (S2 CS=Cover or Coated S CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S2 Sandy Redox Surface (S2 S	Color (Moist) 5YR 4/6 Sand Grains; Location: PL= ace (S8) (F1) (F2) F6)	18 % = Pore Lining, M=N	Type 20 C 4 Intrix Matrix Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplain Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplain	Loc M 3) 5) 5 Soils (F19) 6) 6) 6) 1 Soils (F19)	Texture Sandy loam Sandy loam Clay loam
Remarks: SOILS Profile Description: Depth nches 3-3 3-10 10-20 20-24 Fype: C=Concentration, D=Depletion, RP Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) 3lack Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11)	Matrix Color (Moist) 10YR 3/1 5YR 4/4 2.5YR 4/8 2.5YR 5/8	over = over = % % 80 100 100 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface (	Color (Moist) 5YR 4/6 	18 % = Pore Lining, M=N	Type 20 C 20 C 4atrix Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplain Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplain Anomalous Bright L	Loc M 3) B) n Soils (F19) coamy Soils (F20) B) n Soils (F19) coamy Soils (F19) coamy Soils	Texture Sandy loam Sandy loam Clay loam
Remarks: SOILS Profile Description: Depth nches D-3 3-10 10-20 20-24 Type: C=Concentration, D=Depletion, RI Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12)	Matrix Color (Moist) 10YR 3/1 5YR 4/4 2.5YR 4/8 2.5YR 5/8	over = over = % % 80 100 100 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S2) Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface ( Depleted Dark Surface ( Redox Depressions (f	Color (Moist) 5YR 4/6 	18 % = Pore Lining, M=N	Type 20 C 20 C 4atrix Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplaii Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplaii Anomalous Bright L Red Parent Materia	Loc M 3) 3) B) 5 Soils (F19) 5 Soils (F19) 6) 6) 5 Soils (F19) 5 Soils	Texture Sandy loam Sandy loam Clay loam
Remarks: SOILS Profile Description: Depth nches D-3 3-10 10-20 20-24 Type: C=Concentration, D=Depletion, RI Hydric Soil Indicators: Histosol (A1) Histic Spipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16)	Matrix Color (Moist) 10YR 3/1 5YR 4/4 2.5YR 4/8 2.5YR 5/8	over = over =	Color (Moist) 5YR 4/6 	18 % = Pore Lining, M=N	Type 20 C 20 C 4trix Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplaii Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A0) Reduced Vertic (F1 Piedmont Floodplaii Anomalous Bright L Red Parent Materia Very Shallow Dark S	Loc M 3) 3) B) 5 Soils (F19) 5 Soils (F19) 6) 6) 5 Soils (F19) 5 Soils	Texture Sandy loam Sandy loam Clay loam
Remarks: SOILS Profile Description: Depth Inches 0-3 3-10 10-20 20-24	Matrix Color (Moist) 10YR 3/1 5YR 4/4 2.5YR 4/8 2.5YR 5/8	over = over = % % 80 100 100 100 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S2) Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface ( Depleted Dark Surface ( Redox Depressions (f	Color (Moist) 5YR 4/6 5YR 4/6 5 5 and Grains; Location: PL- 5 and Grains; Location: PL- 5 ace (S8) 3) (F1) (F2) F6) e (F7) F8)	18 % = Pore Lining, M=N	Type 20 C 20 C 4atrix Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplaii Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplaii Anomalous Bright L Red Parent Materia	Loc M 3) 3) B) 5 Soils (F19) 5 Soils (F19) 6) 6) 5 Soils (F19) 5 Soils	Texture Sandy loam Sandy loam Clay loam

	= • • • • • • • • • • • • • • • • • • •				
Sandy Gleyed Matrix (S4)	Iron-Manganese Masses (F12)		Remarks)		
Restrictive Layer (if observed):					
Туре:			Hydric Soils Pr	esent:	Yes
Depth (inches):					
Remarks:		·			

Eastern Mountain and Piedmont

Project:I-495 NEXTSampling Date:8/16/2018Sampling Point:W11-WET

SITE INFORMATION							
Project # & Site:	I-495 NEXT		City/County:	Fairfax County		Date:	8/16/2018
Applicant/Owner:	VDOT		State:	Virginia			<b> </b>
Investigator:		aura Cooper, Kyle owler, Emily Onufer	Section/Township/Range:			Sampling Point:	W11-WET
Landform:	Floodplain		Local Relief:	Concave		Slope (%):	2
Subregion:	LRR P	·	Lat/Long:	38.961246	-77.186870	Datum:	NAD83
Soil Map Unit Name:	Glenelg silt loar	im, 25 to 45 percent slop					
Are climatic/hydrologic conditions on the site ty	-			Yes		NWI Classification:	PFO
Are "Normal Circumstances" present?	. <u>.</u>			Yes			
Are Vegetation	No	Soils	No	or Hydrology	No	significantly disturbed?	·
Are Vegetation	No		No	or Hydrology	No	naturally problematic?	
	<u></u>						
SUMMARY OF FINDINGS							
Hydrophytic Vegetation Present?	· · · · ·	Yes		T			
Hydric soils Present?		Yes		- Is th	nis Sampling Point wi	ithin a Wetland?	Yes
Wetland Hydrology Present?		Yes		1	• -		l ,
		<u></u>	<u>.</u>				·
Remarks:	1						
	·						
HYDROLOGY							
Wetland Hydrology Indicators:		· · · · · · · · · · · · · · · · · · ·		T	Secondary Indicato	ors :	
Primary Indicators :	· · ·	· · · · ·		+	Surface Soil Cracks		<b>├───  </b>
Surface Water (A1)	† •	Water-stained Leaves	(B9)	+		Concave Surface (B8)	<b>├───  </b>
High Water Table (A2)		Aquatic Fauna (B13)	(,	+	Drainage Patterns (E		<u>                                      </u>
Saturation (A3)		Marl Deposits (B 15)		+	Moss Trim Lines (B1		l - 1
Water Marks (B1)	†	Hydrogen Sulfide Odor	or (C1)	+	Dry-Season Water T	1	l - 1
Sediment Deposits (B2)	<b>├</b> ─── <b>'</b>	, 0	es on Living Roots (C3)	х	Crayfish Burrows (C		
Drift Deposits (B3)		Presence of Reduced		<u>+^</u>		n Aerial Imagery (C9)	l - 1
Algal Mats or Crust (B4)		Recent Iron Reduction	. ,	+	Geomorphic Position		l - 1
Iron Deposits (B5)		Thin Muck Surface (C7		+	Shallow Aquitard (D3		
Inundation Visible on Aerial Imagery (B7)		Other (Explain in Rema	,	+	FAC-Neutral Test (D		x
Field Observations:	†	· · · · · · · · · · · · · · · · · · ·		+			<u>^</u>
Surface Water Present?	No	Depth (inches):		+		<u> </u>	
Water Table Present?		Depth (inches):	<u> </u>	-1	Wetland Hydrology	v Present?	Yes
Saturation Present?		Depth (inches):	2	2			
Describe Recorded Data (Stream gauge, mon				1			
previous inspection):	itering in a	a process of the	1				
	·ı	· · · · · · · · · · · · · · · · · · ·	<u>.</u>				
Remarks:	l. I	1					
			· · · · · · · · · · · · · · · · · · ·		······		······
VEGETATION							
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Te	est Worksheet:		
Acer rubrum	45	j yes	FAC	# Dominant Sp	ecies OBL, FACW, FA	AC:	4
Liriodendron tulipifera			FACU	# of Dominant	Species Across All Str	ata:	4
Fraxinus pennsylvanica	5	5 no	FACW	Percent Domin	nant Species OBL, FAC	CW, FAC:	100
	· /	· ·					
	<u>ا</u>	ſ'		1			
	<u>ا</u>	ſ <u></u> '		1			
	55	5 = Total Cover		1			
	50% of Total Co	over =	28	3			
50/20 Thresholds:	20% of Total Co	over =	11	1			
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status				
Fraxinus pennsylvanica		j yes	FACW	1			
Acer rubrum		5 no	FAC	-			

20 8

40 = Total Cover

50% of Total Cover = 20% of Total Cover =

50/20 Thresholds:

Project:I-495 NEXTSampling Date:8/16/2018Sampling Point:W11-WET

WETLAND DETERMINATION DATA FORM

Lindera benzoin 50/20 Thresholds: Herb Stratum Microstegium vimineum Ligustrum japonicum Lonicera japonica			FAC	1 - Rapid Test 2 - Dominance 3 - Prevalence I 4 - Problematic	ndex is ≤ 3.0		No Yes
Herb Stratum Microstegium vimineum .igustrum japonicum .onicera japonica	50% of Total C 20% of Total C Absolute %	over =		2 - Dominance 3 - Prevalence I	ndex is ≤ 3.0		Yes
Herb Stratum Microstegium vimineum .igustrum japonicum .onicera japonica	50% of Total C 20% of Total C Absolute %	over =		3 - Prevalence I	ndex is ≤ 3.0		
Herb Stratum Microstegium vimineum Ligustrum japonicum Lonicera japonica	50% of Total C 20% of Total C Absolute %	over =					1
Herb Stratum Microstegium vimineum Ligustrum japonicum Lonicera japonica	50% of Total C 20% of Total C Absolute %	over =		- Trobicinatio		 מו	No
Herb Stratum Microstegium vimineum Ligustrum japonicum Lonicera japonica	50% of Total C 20% of Total C Absolute %	over =			riyaropriyao vogotala		
Herb Stratum Microstegium vimineum Ligustrum japonicum Lonicera japonica	50% of Total C 20% of Total C Absolute %	over =		1			
Herb Stratum Microstegium vimineum Ligustrum japonicum Lonicera japonica	20% of Total C Absolute %		12.5				
Herb Stratum Microstegium vimineum Ligustrum japonicum Lonicera japonica	Absolute %		12.0				
Vicrostegium vimineum Ligustrum japonicum Lonicera japonica				, 			
Ligustrum japonicum Lonicera japonica	00101	Dominant Species?		Definitions of V	egetation Strata:		
onicera japonica	60	yes	FAC	Tree:	20 ft or more in heigl	ht, 3 in or larger diameter at	DBH
	5	no	UPL	Sapling:	20 ft or more in heig	ht, less than 3 in DBH	
	5	no	FACU	Shrub:	3-20 ft in height		-
Acer rubrum	5	no	FAC	Herb:	less than 3 ft in heigh	nt	
				Vine:	all woody vines		
	75	= Total Cover			,		
	50% of Total C		37.5	5			
50/20 Thresholds:	20% of Total C		15				
Noody Vine Stratum	Absolute %	Dominant Species?					
	Cover	-		_			
N/A				-			
				_			
				_			
				_			
							<b>.</b>
	0	= Total Cover					
	50% of Total C	over =	(				
50/20 Thresholds:	20% of Total C	over =	(	2			
Remarks:		Prevalence Index was	not used in determining pres	ence of hydrophy	tic vegetation.		
SOILS							
Profile Description:							
Depth	Matrix		Redox Features				_
nches		%	Color (Moist)	%	Туре	Loc	Texture
)-12	10YR 4/2		10YR 6/6	10		M	Sandy loam
	10111 -1/2	50		10	~		candy loann
							l
Type: C=Concentration, D=Depletion, RN	A = Reduced Matrix,	CS=Cover or Coated S	and Grains; Location: PL=Po	re Lining, M=Matr	ix		
lydric Soil Indicators:							
Hydric Soil Indicators: Histosol (A1)		Sandy Redox (S5)		1	Umbric Surface (F13	;)	

Histosol (A1)	Sandy Redox (S5)		Umbric Surface (F1	3)	
Histic Epipedon (A2)	Stripped Matrix (S6)		Delta Ochric (F17)		
Black Histic (A3)	Dark Surface (S7)		Reduced Vertic (F18)		
Hydrogen Sulfide (A4)	Polyvalue Below Surface (S8)	Polyvalue Below Surface (S8) Piedmont Flo		n Soils (F19)	
Stratified Layers (A5)	Thin Dark Surface (S9)		Anomalous Bright L	oamy Soils (F20)	
Organic Bodies (A6)	Loamy Mucky Mineral (F1)		1 cm Muck (A9)		
5 cm Mucky Mineral (A7)	Loamy Gleyed Matrix (F2)		2 cm Muck (A10)		
Muck Presence (A8)	Depleted Matrix (F3)	Х	Reduced Vertic (F18)		
1 cm Muck (A9)	Redox Dark Surface (F6)		Piedmont Floodplain Soils (F19)		
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7) Anomalous Bright Loar		oamy Soils		
Thick Dark Surface (A12)	Redox Depressions (F8)		Red Parent Material (TF2)		
Coast Prairie Redox (A16)	Marl (F10)		Very Shallow Dark S	Surface (TF12)	
Sandy Mucky Mineral (S1)	Depleted Ochric (F11)		Other (Explain in		
Sandy Gleyed Matrix (S4)	Iron-Manganese Masses (F12)		Remarks)		
Restrictive Layer (if observed):					
Туре:			Hydric Soils P	resent:	Yes
Depth (inches):					
Remarks:					

WETLAND DETERMINATION DATA FORM Eastern Mountain and Piedmont Project: I-495 NEXT Sampling Date: 9/19/2019 Sampling Point: W11-UP

SITE INFORMATION Project # & Site: I-495 NEXT City/County: Fairfax County Date: 9/19/2019 VDOT Virginia Applicant/Owner: State: Sampling Point: W11-UP Investigator: KRJ/SS Section/Township/Range: Hillslope Convex 18-20% Landform: Local Relief: Slope (%): Subregion: LRR P Lat/Long: 38.961146 -77.186851 Datum: NAD83 Glenelg silt loam, 15 to 25 percent slopes Soil Map Unit Name: NWI Classification: N/A Are climatic/hydrologic conditions on the site typical for this time of year? Yes Are "Normal Circumstances" present? Yes No Are Vegetation No Soils or Hydrology No significantly disturbed? naturally problematic? Are Vegetation No Soils No or Hydrology No SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Hydric soils Present?		Yes			
		No		Is this Sampling Point within a Wetland?	No
Wetland Hydrology Present?		No			
Remarks:	Point taken on	steep slope above WO	DUS.		

HYDROLOGY						
Wetland Hydrology Indicators:				Secondary Indicators :		
Primary Indicators :				Surface Soil Cracks (B6)		
Surface Water (A1)		Water-stained Leav	/es (B9)	Sparsely Vegetated Concave Surface (B8)		
High Water Table (A2)		Aquatic Fauna (B13	3)	Drainage Patterns (B10)		
Saturation (A3)		Marl Deposits (B 15	5)	Moss Trim Lines (B16)		
Water Marks (B1)		Hydrogen Sulfide O	Odor (C1)	Dry-Season Water Table (C2)		
Sediment Deposits (B2)		Oxidized Rhizosphe	eres on Living Roots (C3)	Crayfish Burrows (C8)		
Drift Deposits (B3)		Presence of Reduc	ed Iron (C4)	Saturation Visible on Aerial Imagery (C9)		
Algal Mats or Crust (B4)		Recent Iron Reduct	tion in Tilled Soils (C6)	Geomorphic Position (D2)		
Iron Deposits (B5)		Thin Muck Surface	(C7)	Shallow Aquitard (D3)		
Inundation Visible on Aerial Imagery (B7)		Other (Explain in Re	emarks)	FAC-Neutral Test (D5)		
Field Observations:						
Surface Water Present?	No	Depth (inches):				
Water Table Present?	No	Depth (inches):		Wetland Hydrology Present?	No	
Saturation Present?	No	Depth (inches):				
Describe Recorded Data (Stream gauge, m previous inspection):	nonitoring we	ll, aerial photograph,			-	
Remarks:						

VEGETATION						
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:		
Quercus alba	30	yes	FACU	# Dominant Species OBL, FACW, FAC:	4	
Acer rubrum	20	yes	FAC	# of Dominant Species Across All Strata:	6	
Liriodendron tulipifera	15	no	FACU	Percent Dominant Species OBL, FACW, FAC:	67	
Ulmus americana	15	no	FACW			
Fagus grandifolia	5	no	FACU			
	85	= Total Cover				
	50% of Total C	over =	43			
50/20 Thresholds:	20% of Total C	over =	17			
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status			
N/A						
	0	= Total Cover				
	50% of Total C	over =	0			
50/20 Thresholds:	20% of Total C	over =	0			

Project: I-495 NEXT Sampling Date: 9/19/2019 Sampling Point: W11-UP

Anomalous Bright Loamy Soils

Very Shallow Dark Surface (TF12)

Red Parent Material (TF2)

WETLAND DETERMINATION DATA FORM

Eastern Mountain and Piedmont

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophyt	tic Vegetation Indic	ators:	
Phyllostachys aureosulcata	60	yes	UPL	1 - Rapid T	est		No
					nce Test is >50%		Yes
				3 - Prevale	nce Index is ≤ 3.0		
				4 - Problem	natic Hydrophytic Ve	getation	No
						•	
	60	= Total Cover					
	50% of Total C	over =		80			
50/20 Thresholds:	20% of Total C	over =		2			
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Definition	s of Vegetation Str	ata:	
Microstegium vimineum	10	yes	FAC	Tree:	20 ft or more i	n height, 3 in or larger diame	ter at DBH
Athyrium filix-femina		yes	FAC	Sapling:		n height, less than 3 in DBH	
Polygonum virginianum		yes	FAC	Shrub:	3-20 ft in heigl	-	
Polystichum acrostichoides		no	FACU	Herb:	less than 3 ft i		
Rubus phoenicolasius		no	FACU	Vine:	all woody vine	-	
		= Total Cover					
	50% of Total C			0			
50/20 Thresholds:	20% of Total C			8			
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status				
N/A				-1			
<u></u>							
				-			
				-			
				-			
	0	= Total Cover					
	50% of Total C			0	Hydrophytic Ve	getation Present:	Yes
50/20 Thresholds:	20% of Total C			0	, , , , , ,	<b>5</b>	
		1					
Remarks:		Prevalence Index was	not used in determining pre	sence of hydr	ophytic vegetation.		
SOILS							
Profile Description:							
Depth	Matrix		Redox Features				
Inches	Color (Moist)	%	Color (Moist)	%	Туре	Loc	Texture
0-22	7.5YR 6/6	100		1	71-		Sandy loam
22-24	7.5YR 5/2	100					Sandy loam
		100					canay ioun
				+			
Type: C=Concentration, D=Depletion, R	M = Reduced Matrix	CS=Cover or Coated S	L and Grains: Location: PL=P	ore Linina M=	Matrix	I	
Hydric Soil Indicators:	Housed wat in,						
,		Sandy Redox (S5)			Umbric Surfac	o (F13)	
Histosol (A1)				+			
Histic Epipedon (A2)		Stripped Matrix (S6) Dark Surface (S7)		+	Delta Ochric ( Reduced Verti	1	
Black Histic (A3)		. ,	200 (59)	+			
Hydrogen Sulfide (A4)		Polyvalue Below Surfa	· · · ·			idplain Soils (F19)	
Stratified Layers (A5)		Thin Dark Surface (SS			Anomalous Br 1 cm Muck (A	ight Loamy Soils (F20)	
Organic Bodies (A6)		Loamy Mucky Mineral			(	/	
· · · ·		Loamy Gleyed Matrix	(F2)				
5 cm Mucky Mineral (A7) Muck Presence (A8)		Depleted Matrix (F3)			Reduced Vert	c (F18)	
· · · ·					Reduced Vert Piedmont Floo		

Marl (F10) Coast Prairie Redox (A16) Other (Explain in Sandy Mucky Mineral (S1) Depleted Ochric (F11) Remarks) Sandy Gleyed Matrix (S4) Iron-Manganese Masses (F12) Restrictive Layer (if observed): Type: Hydric Soils Present: No Depth (inches): Remarks: Rocks throughout sample.

Depleted Dark Surface (F7)

Redox Depressions (F8)

Depleted Below Dark Surface (A11)

Thick Dark Surface (A12)

WETLAND DETERMINATION DATA FORM Eastern Mountain and Piedmont

Landform:

Subregion:

Remarks:

Project: I-495 NEXT Sampling Date: 8/16/2018 Sampling Point: W12-WET1

SITE INFORMATION Project # & Site: I-495 NEXT City/County: Fairfax County Date: 8/16/2018 VDOT Applicant/Owner: State: Virginia Scott Shifflett, Laura Cooper, Kyle Haynes, Evan Fowler, Emily Onufer Sampling Point: W12-WET1 Investigator: Section/Township/Range: Hillslope None Local Relief: Slope (%): LRR P Lat/Long: 38.965049 -77.187033 Datum: NAD83 Soil Map Unit Name: Glenelg silt loam, 25 to 45 percent slopes NWI Classification: PFO Are climatic/hydrologic conditions on the site typical for this time of year? Yes Are "Normal Circumstances" present? Yes Are Vegetation No Soils No or Hydrology No significantly disturbed? Are Vegetation No Soils No or Hydrology No naturally problematic? SUMMARY OF FINDINGS Hydrophytic Vegetation Present? Yes Hydric soils Present? Yes Is this Sampling Point within a Wetland? Yes Wetland Hydrology Present? Yes

HYDROLOGY					
Wetland Hydrology Indicators:				Secondary Indicators :	
Primary Indicators :				Surface Soil Cracks (B6)	
Surface Water (A1)	Х	Water-stained Leaves	(B9)	Sparsely Vegetated Concave Surface (B8)	
High Water Table (A2)	Х	Aquatic Fauna (B13)		Drainage Patterns (B10)	Х
Saturation (A3)	Х	Marl Deposits (B 15)		Moss Trim Lines (B16)	
Water Marks (B1)	Х	Hydrogen Sulfide Odd	or (C1)	Dry-Season Water Table (C2)	
Sediment Deposits (B2)		Oxidized Rhizosphere	es on Living Roots (C3)	Crayfish Burrows (C8)	
Drift Deposits (B3)		Presence of Reduced	Iron (C4)	Saturation Visible on Aerial Imagery (C9)	
Algal Mats or Crust (B4)		Recent Iron Reduction	n in Tilled Soils (C6)	Geomorphic Position (D2)	
Iron Deposits (B5)		Thin Muck Surface (C	7)	Shallow Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)		Other (Explain in Rem	narks)	FAC-Neutral Test (D5)	Х
Field Observations:					
Surface Water Present?	Yes	Depth (inches):	1		
Water Table Present?	Yes	Depth (inches):	2	Wetland Hydrology Present?	Yes
Saturation Present?	Yes	Depth (inches):	0		
Describe Recorded Data (Stream gauge, m previous inspection):	ionitoring well	, aerial photograph,			
Remarks:					

VEGETATION					
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
N/A				# Dominant Species OBL, FACW, FAC:	3
				# of Dominant Species Across All Strata:	3
				Percent Dominant Species OBL, FACW, FAC:	100
	(	= Total Cover			
	50% of Total C	Cover =	C		
50/20 Thresholds:	20% of Total C	Cover =	C		
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status		
N/A					
				1	
	0	= Total Cover			
	50% of Total C	cover =	0		
50/20 Thresholds:	20% of Total C	Cover =	0		

Project: I-495 NEXT Sampling Date: 8/16/2018 Sampling Point: W12-WET1

WETLAND DETERMINATION DATA FORM

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Ve	egetation Indicators		
Lindera benzoin	5	yes	FAC	1 - Rapid Test No			No
				2 - Dominance	Fest is >50%		Yes
				3 - Prevalence I			
					Hydrophytic Vegetat	ion	No
				1 1 robiointatio	nju opnju o vogetu		
	5	= Total Cover		_			
	50% of Total C		2	.5			
50/00 Threeholder	20% of Total C		2	1			
50/20 Thresholds:	Absolute %	1					
Herb Stratum	Cover	Dominant Species?	Indicator Status	Definitions of V	/egetation Strata:		
Microstegium vimineum		ves	FAC	Tree:		ht, 3 in or larger diame	ater at DBH
Boehmeria cylindrica		yes	FACW	Sapling:		pht, less than 3 in DBH	
Sagittaria calycina		no	OBL	Shrub:	3-20 ft in height		
Sagillaria Calycina	5	110	UBL		-	.L.4	
				Herb:	less than 3 ft in heig	Int	
				Vine:	all woody vines		
		= Total Cover		_			
	50% of Total C		47				
50/20 Thresholds:	20% of Total C	over =		19			
Woody Vine Stratum	Absolute %	Dominant Species?	Indicator Status				
	Cover	Somman Opecies?					
N/A							
			1				
				-			
	0	TILO		-			
		= Total Cover		-			
	50% of Total C				lydrophytic Vegeta	ion Present:	Yes
	20% of Total C	over =		0			
			not used in determining pre	esence of hydrophy	tic vegetation.		
Remarks: SOILS Profile Description:				esence of hydrophy	tic vegetation.		
Remarks: SOILS Profile Description: Depth	Matrix	Prevalence Index was	Redox Features		-	ŀ	Texture
Remarks: SOILS Profile Description: Depth Inches	Matrix Color (Moist)	Prevalence Index was	Redox Features Color (Moist)	%	Туре	Loc	
Remarks: SOILS Profile Description: Depth Inches	Matrix	Prevalence Index was	Redox Features		Туре	Loc M	Texture Sandy loam
Remarks: SOILS Profile Description: Depth Inches	Matrix Color (Moist)	Prevalence Index was	Redox Features Color (Moist)	%	Туре		
Remarks: SOILS Profile Description: Depth Inches	Matrix Color (Moist)	Prevalence Index was	Redox Features Color (Moist)	%	Туре		
50/20 Thresholds: Remarks: SOILS Profile Description: Depth Inches 0-12	Matrix Color (Moist)	Prevalence Index was	Redox Features Color (Moist)	%	Туре		
Remarks: SOILS Profile Description: Depth Inches	Matrix Color (Moist)	Prevalence Index was	Redox Features Color (Moist)	%	Туре		
Remarks: SOILS Profile Description: Depth Inches	Matrix Color (Moist)	Prevalence Index was	Redox Features Color (Moist)	%	Туре		
Remarks: SOILS Profile Description: Depth Inches 0-12	Matrix Color (Moist) 10YR 3/2	Prevalence Index was	Redox Features Color (Moist) 10YR 4/6	% 15	Type C		
Remarks: SOILS Profile Description: Depth Inches 0-12 Type: C=Concentration, D=Depletion, RM	Matrix Color (Moist) 10YR 3/2	Prevalence Index was	Redox Features Color (Moist) 10YR 4/6	% 15	Type C		
Remarks: SOILS Profile Description: Depth Inches 0-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators:	Matrix Color (Moist) 10YR 3/2	Prevalence Index was	Redox Features Color (Moist) 10YR 4/6	% 15	Type C	M 	
Remarks: SOILS Profile Description: Depth Inches 0-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was	Redox Features Color (Moist) 10YR 4/6	% 15	Type C ix Umbric Surface (F1	M 	
Remarks: SOILS Profile Description: Depth Inches 0-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % % CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6)	Redox Features Color (Moist) 10YR 4/6	% 15	Type C ix Umbric Surface (F1 Delta Ochric (F17)	M 	
Remarks: SOILS Profile Description: Depth Inches 0-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % % CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7)	Redox Features Color (Moist) 10YR 4/6 	% 15	Type C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1	M 	
Remarks: SOILS Profile Description: Depth Inches D-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % % CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6)	Redox Features Color (Moist) 10YR 4/6 	% 15	Type C ix Umbric Surface (F1 Delta Ochric (F17)	M 	
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Remarks: SOILS Profile Description: Depth Inches D-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % % Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surface	Redox Features Color (Moist) 10YR 4/6 and Grains; Location: PL=F	% 15	Type C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai	M 3) 8) 50ils (F19)	
Remarks: SOILS Profile Description: Depth Inches D-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % % Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5)	Redox Features Color (Moist) 10YR 4/6 and Grains; Location: PL=F ace (S8) 2) (F1)	% 15	Type C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L	M 3) 8) 50ils (F19)	
Remarks: SOILS Profile Description: Depth nches D-12 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % % Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5) Loamy Mucky Mineral	Redox Features Color (Moist) 10YR 4/6 and Grains; Location: PL=F ace (S8) 2) (F1)	% 15	Type C C ix Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L 1 cm Muck (A9)	M 3) 8) n Soils (F19) oamy Soils (F20)	
Remarks: SOILS Profile Description: Depth nches D-12 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % 85 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5) Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3)	Redox Features Color (Moist) 10YR 4/6 and Grains; Location: PL=F ace (S8) ace (S8) (F1) (F2)	% 15	Type C C ix Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10)	M 3) 8) n Soils (F19) oarry Soils (F20) 8)	
Remarks: SOILS Profile Description: Depth Inches D-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % 85 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5) Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface (	Redox Features Color (Moist) 10YR 4/6 and Grains; Location: PL=F ace (S8) a) (F1) (F2) F6)	%       15       ore Lining, M=Matr	Type C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplai	M M 3) 8) n Soils (F19) oamy Soils (F20) 8) n Soils (F19)	
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Remarks: SOILS Profile Description: Depth Inches D-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % 85 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S7) Polyvalue Below Surfac Loamy Mucky Mineral Loamy Mucky Mineral Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface Redox Depressions (f Marl (F10) Depleted Ochric (F11)	Redox Features         Color (Moist)         10YR 4/6	%       15       ore Lining, M=Matr	Type C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L Red Parent Materia Very Shallow Dark Other (Explain in	M M 3) 8) n Soils (F19) oamy Soils (F20) 8) n Soils (F19) oamy Soils (F19) oamy Soils (F19) oamy Soils	
Remarks: SOILS Profile Description: Depth Inches D-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % 85 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfac Thin Dark Surface (S7) Thin Dark Surface (S7) Polyvalue Below Surfac Loamy Mucky Mineral Loamy Mucky Mineral Loamy Mucky Mineral Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface Redox Depressions (F Marl (F10)	Redox Features         Color (Moist)         10YR 4/6	%       15       ore Lining, M=Matr	Type C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L Red Parent Materia Very Shallow Dark 3	M M 3) 8) n Soils (F19) oamy Soils (F20) 8) n Soils (F19) oamy Soils (F19) oamy Soils (F19) oamy Soils	
Remarks: SOILS Profile Description: Depth Inches D-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % 85 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S7) Polyvalue Below Surfac Loamy Mucky Mineral Loamy Mucky Mineral Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface Redox Depressions (f Marl (F10) Depleted Ochric (F11)	Redox Features         Color (Moist)         10YR 4/6	%       15       ore Lining, M=Matr	Type C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L Red Parent Materia Very Shallow Dark Other (Explain in	M M 3) 8) n Soils (F19) oamy Soils (F20) 8) n Soils (F19) oamy Soils (F19) oamy Soils (F19) oamy Soils	
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Remarks: SOILS Profile Description: Depth nches D-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % 85 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S7) Polyvalue Below Surfac Loamy Mucky Mineral Loamy Mucky Mineral Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface Redox Depressions (f Marl (F10) Depleted Ochric (F11)	Redox Features         Color (Moist)         10YR 4/6	%       15       ore Lining, M=Matr	Type C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L Red Parent Materia Very Shallow Dark 3 Other (Explain in Remarks)	M M 3) B) n Soils (F19) oamy Soils (F20) B) n Soils (F19) oamy Soils (F19) oamy Soils (F19) Surface (TF12)	Sandy loam

WETLAND DETERMINATION DATA FORM Eastern Mountain and Piedmont

Landform:

Subregion:

Remarks:

Project: I-495 NEXT Sampling Date: 8/16/2018 Sampling Point: W12-WET1

SITE INFORMATION Project # & Site: I-495 NEXT City/County: Fairfax County Date: 8/16/2018 VDOT Applicant/Owner: State: Virginia Scott Shifflett, Laura Cooper, Kyle Haynes, Evan Fowler, Emily Onufer Sampling Point: W12-WET1 Investigator: Section/Township/Range: Hillslope None Local Relief: Slope (%): LRR P Lat/Long: 38.965331 -77.186959 Datum: NAD83 Soil Map Unit Name: Glenelg silt loam, 25 to 45 percent slopes NWI Classification: PFO Are climatic/hydrologic conditions on the site typical for this time of year? Yes Are "Normal Circumstances" present? Yes Are Vegetation No Soils No or Hydrology No significantly disturbed? Are Vegetation No Soils No or Hydrology No naturally problematic? SUMMARY OF FINDINGS Hydrophytic Vegetation Present? Yes Hydric soils Present? Yes Is this Sampling Point within a Wetland? Yes Wetland Hydrology Present? Yes

HYDROLOGY					
Wetland Hydrology Indicators:				Secondary Indicators :	
Primary Indicators :				Surface Soil Cracks (B6)	
Surface Water (A1)	х	Water-stained Leaves	(B9)	Sparsely Vegetated Concave Surface (B8)	
High Water Table (A2)	х	Aquatic Fauna (B13)		Drainage Patterns (B10) X	
Saturation (A3)	х	Marl Deposits (B 15)		Moss Trim Lines (B16)	
Water Marks (B1)	х	Hydrogen Sulfide Odd	or (C1)	Dry-Season Water Table (C2)	
Sediment Deposits (B2)		Oxidized Rhizosphere	s on Living Roots (C3)	Crayfish Burrows (C8)	
Drift Deposits (B3)		Presence of Reduced	Iron (C4)	Saturation Visible on Aerial Imagery (C9)	
Algal Mats or Crust (B4)		Recent Iron Reduction	n in Tilled Soils (C6)	Geomorphic Position (D2)	
Iron Deposits (B5)		Thin Muck Surface (C	7)	Shallow Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)		Other (Explain in Rem	arks)	FAC-Neutral Test (D5) X	
Field Observations:					
Surface Water Present?	Yes	Depth (inches):	1		
Water Table Present?	Yes	Depth (inches):	2	Wetland Hydrology Present? Yes	
Saturation Present?	Yes	Depth (inches):	0		
Describe Recorded Data (Stream gauge, mo previous inspection):	onitoring well, ae	rial photograph,			
Remarks:			•		

VEGETATION						
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:		
N/A				# Dominant Species OBL, FACW, FAC:	3	
				# of Dominant Species Across All Strata:	3	
				Percent Dominant Species OBL, FACW, FAC:	100	
	(	) = Total Cover				
	50% of Total C	Cover =	(			
50/20 Thresholds:	20% of Total C	Cover =	(			
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status			
N/A						
	0	) = Total Cover				
	50% of Total C	Cover =	0			
50/20 Thresholds:	20% of Total C	Cover =	0			

Project: I-495 NEXT Sampling Date: 8/16/2018 Sampling Point: W12-WET1

WETLAND DETERMINATION DATA FORM

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Ve	egetation Indicators		
Lindera benzoin	5	yes	FAC	1 - Rapid Test No			No
				2 - Dominance	Fest is >50%		Yes
				3 - Prevalence I			
					Hydrophytic Vegetat	ion	No
				1 1 robiointatio	nju opnju o vogetu		
	5	= Total Cover		_			
	50% of Total C		2	.5			
50/00 Threeholder	20% of Total C		2	1			
50/20 Thresholds:	Absolute %	1					
Herb Stratum	Cover	Dominant Species?	Indicator Status	Definitions of V	/egetation Strata:		
Microstegium vimineum		ves	FAC	Tree:		ht, 3 in or larger diame	ater at DBH
Boehmeria cylindrica		yes	FACW	Sapling:		pht, less than 3 in DBH	
Sagittaria calycina		no	OBL	Shrub:	3-20 ft in height		
Sagillaria Calycina	5	110	UBL		-	.L.4	
				Herb:	less than 3 ft in heig	Int	
				Vine:	all woody vines		
		= Total Cover		_			
	50% of Total C		47				
50/20 Thresholds:	20% of Total C	over =		19			
Woody Vine Stratum	Absolute %	Dominant Species?	Indicator Status				
	Cover	Somman Opecies?					
N/A							
			1				
				-			
	0	TILO		-			
		= Total Cover		-			
	50% of Total C				lydrophytic Vegeta	ion Present:	Yes
	20% of Total C	over =		0			
			not used in determining pre	esence of hydrophy	tic vegetation.		
Remarks: SOILS Profile Description:				esence of hydrophy	tic vegetation.		
Remarks: SOILS Profile Description: Depth	Matrix	Prevalence Index was	Redox Features		-	ŀ	Texture
Remarks: SOILS Profile Description: Depth Inches	Matrix Color (Moist)	Prevalence Index was	Redox Features Color (Moist)	%	Туре	Loc	
Remarks: SOILS Profile Description: Depth Inches	Matrix	Prevalence Index was	Redox Features		Туре	Loc M	Texture Sandy loam
Remarks: SOILS Profile Description: Depth Inches	Matrix Color (Moist)	Prevalence Index was	Redox Features Color (Moist)	%	Туре		
Remarks: SOILS Profile Description: Depth Inches	Matrix Color (Moist)	Prevalence Index was	Redox Features Color (Moist)	%	Туре		
50/20 Thresholds: Remarks: SOILS Profile Description: Depth Inches 0-12	Matrix Color (Moist)	Prevalence Index was	Redox Features Color (Moist)	%	Туре		
Remarks: SOILS Profile Description: Depth Inches	Matrix Color (Moist)	Prevalence Index was	Redox Features Color (Moist)	%	Туре		
Remarks: SOILS Profile Description: Depth Inches	Matrix Color (Moist)	Prevalence Index was	Redox Features Color (Moist)	%	Туре		
Remarks: SOILS Profile Description: Depth Inches 0-12	Matrix Color (Moist) 10YR 3/2	Prevalence Index was	Redox Features Color (Moist) 10YR 4/6	% 15	Type C		
Remarks: SOILS Profile Description: Depth Inches 0-12 Type: C=Concentration, D=Depletion, RM	Matrix Color (Moist) 10YR 3/2	Prevalence Index was	Redox Features Color (Moist) 10YR 4/6	% 15	Type C		
Remarks: SOILS Profile Description: Depth Inches 0-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators:	Matrix Color (Moist) 10YR 3/2	Prevalence Index was	Redox Features Color (Moist) 10YR 4/6	% 15	Type C	M 	
Remarks: SOILS Profile Description: Depth Inches 0-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was	Redox Features Color (Moist) 10YR 4/6	% 15	Type C ix Umbric Surface (F1	M 	
Remarks: SOILS Profile Description: Depth Inches 0-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % % CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6)	Redox Features Color (Moist) 10YR 4/6	% 15	Type C ix Umbric Surface (F1 Delta Ochric (F17)	M 	
Remarks: SOILS Profile Description: Depth Inches 0-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % % CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7)	Redox Features Color (Moist) 10YR 4/6 	% 15	Type C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1	M 	
Remarks: SOILS Profile Description: Depth Inches D-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % % CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6)	Redox Features Color (Moist) 10YR 4/6 	% 15	Type C ix Umbric Surface (F1 Delta Ochric (F17)	M 	
Remarks: SOILS Profile Description: Depth Inches D-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % % CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7)	Redox Features Color (Moist) 10YR 4/6 and Grains; Location: PL=F	% 15	Type C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L	M 3) 8) 50ils (F19)	
Remarks: SOILS Profile Description: Depth Inches D-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % % Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surface	Redox Features Color (Moist) 10YR 4/6 and Grains; Location: PL=F	% 15	Type C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai	M 3) 8) 50ils (F19)	
Remarks: SOILS Profile Description: Depth Inches D-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % % Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5)	Redox Features Color (Moist) 10YR 4/6 and Grains; Location: PL=F ace (S8) 2) (F1)	% 15	Type C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L	M 3) 8) 50ils (F19)	
Remarks: SOILS Profile Description: Depth nches D-12 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % % Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5) Loamy Mucky Mineral	Redox Features Color (Moist) 10YR 4/6 and Grains; Location: PL=F ace (S8) 2) (F1)	% 15	Type C C ix Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L 1 cm Muck (A9)	M 3) 8) n Soils (F19) oamy Soils (F20)	
Remarks: SOILS Profile Description: Depth nches D-12 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % 85 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5) Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3)	Redox Features Color (Moist) 10YR 4/6 and Grains; Location: PL=F ace (S8) ace (S8) (F1) (F2)	% 15	Type C C ix Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10)	M 3) 8) n Soils (F19) oarry Soils (F20) 8)	
Remarks: SOILS Profile Description: Depth Inches D-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % 85 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5) Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface (	Redox Features Color (Moist) 10YR 4/6 and Grains; Location: PL=F ace (S8) a) (F1) (F2) F6)	%       15       ore Lining, M=Matr	Type C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplai	M M 3) 8) n Soils (F19) oamy Soils (F20) 8) n Soils (F19)	
Remarks: SOILS Profile Description: Depth nches D-12 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was Prevalence Index was % % % % CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5) Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface (Depleted Dark Surface	Redox Features Color (Moist) 10YR 4/6 and Grains; Location: PL=F ace (S8) a) (F1) (F2) F6) e (F7)	%       15       ore Lining, M=Matr	Type C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L	M M 3) 8) n Soils (F19) oamy Soils (F20) 8) n Soils (F19) oamy Soils	
Remarks: SOILS Profile Description: Depth Inches D-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % 85 85 85 85 85 85 85 85 85 85 85 85 85	Redox Features Color (Moist) 10YR 4/6 and Grains; Location: PL=F ace (S8) a) (F1) (F2) F6) e (F7)	%       15       ore Lining, M=Matr	Type C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L Red Parent Materia	M M 3) 8) n Soils (F19) oamy Soils (F20) 8) n Soils (F19) oamy Soils (F19) oamy Soils (F19) oamy Soils	
Remarks: SOILS Profile Description: Depth Inches 0-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % 85 85 85 85 85 85 85 85 85 85 85 85 85	Redox Features Color (Moist) 10YR 4/6 and Grains; Location: PL=F ace (S8) a) (F1) (F2) F6) e (F7) 	%       15       ore Lining, M=Matr	Type C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L Red Parent Materia Very Shallow Dark 3	M M 3) 8) n Soils (F19) oamy Soils (F20) 8) n Soils (F19) oamy Soils (F19) oamy Soils (F19) oamy Soils	
Remarks: SOILS Profile Description: Depth Inches D-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % 85 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S7) Polyvalue Below Surfac Loamy Mucky Mineral Loamy Mucky Mineral Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface Redox Depressions (f Marl (F10) Depleted Ochric (F11)	Redox Features           Color (Moist)           10YR 4/6	%       15       ore Lining, M=Matr	Type C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L Red Parent Materia Very Shallow Dark Other (Explain in	M M 3) 8) n Soils (F19) oamy Soils (F20) 8) n Soils (F19) oamy Soils (F19) oamy Soils (F19) oamy Soils	
Remarks: SOILS Profile Description: Depth Inches D-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % 85 85 85 85 85 85 85 85 85 85 85 85 85	Redox Features           Color (Moist)           10YR 4/6	%       15       ore Lining, M=Matr	Type C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L Red Parent Materia Very Shallow Dark 3	M M 3) 8) n Soils (F19) oamy Soils (F20) 8) n Soils (F19) oamy Soils (F19) oamy Soils (F19) oamy Soils	
Remarks: SOILS Profile Description: Depth Inches D-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % 85 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S7) Polyvalue Below Surfac Loamy Mucky Mineral Loamy Mucky Mineral Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface Redox Depressions (f Marl (F10) Depleted Ochric (F11)	Redox Features         Color (Moist)         10YR 4/6	%       15       ore Lining, M=Matr	Type C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L Red Parent Materia Very Shallow Dark Other (Explain in	M M 3) 8) n Soils (F19) oamy Soils (F20) 8) n Soils (F19) oamy Soils (F19) oamy Soils (F19) oamy Soils	
Remarks: SOILS Profile Description: Depth nches D-12 Fype: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if observed):	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % 85 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S7) Polyvalue Below Surfac Loamy Mucky Mineral Loamy Mucky Mineral Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface Redox Depressions (f Marl (F10) Depleted Ochric (F11)	Redox Features         Color (Moist)         10YR 4/6	%       15       ore Lining, M=Matr	Type C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L Red Parent Materia Very Shallow Dark Other (Explain in	M M 3) 3) 8) n Soils (F19) oamy Soils (F20) 8) n Soils (F19) oamy Soils (F19) oamy Soils I (TF2) Surface (TF12)	
Remarks: SOILS Profile Description: Depth nches D-12 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Matrix Color (Moist) 10YR 3/2	Prevalence Index was % 85 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S7) Polyvalue Below Surfac Loamy Mucky Mineral Loamy Mucky Mineral Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface Redox Depressions (f Marl (F10) Depleted Ochric (F11)	Redox Features         Color (Moist)         10YR 4/6	%       15       ore Lining, M=Matr	Type C C Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F1 Piedmont Floodplai Anomalous Bright L Red Parent Materia Very Shallow Dark 3 Other (Explain in Remarks)	M M 3) 3) 8) n Soils (F19) oamy Soils (F20) 8) n Soils (F19) oamy Soils (F19) oamy Soils I (TF2) Surface (TF12)	Sandy loam

Project: I-495 NEXT Sampling Date: 9/19/2019 Sampling Point: W12-UP

WETLAND DETERMINATION DATA FORM Eastern Mountain and Piedmont

SITE INFORMATION							
Project # & Site:	I-495 NEXT		City/County:	Fairfax County		Date:	9/19/2019
Applicant/Owner:	VDOT		State:	Virginia			
Investigator:	KRJ/SS		Section/Township/Range:			Sampling Point:	W12-UP
Landform:	Hillslope		Local Relief:	Concave		Slope (%):	6-8%
Subregion:	LRR P		Lat/Long:	38.965221	-77.186885	Datum:	NAD83
Soil Map Unit Name:	Glenelg silt loa	m, 25 to 45 percent slo	pes			NWI Classification:	N/A
Are climatic/hydrologic conditions on the site	typical for this tir	ne of year?		Yes		INWI Classification.	IN/A
Are "Normal Circumstances" present?				Yes			
Are Vegetation	No	Soils	No	or Hydrology	No	significantly disturbed?	
Are Vegetation	No	Soils	No	or Hydrology	No	naturally problematic?	
SUMMARY OF FINDINGS							
Hydrophytic Vegetation Present?		Yes					
Hydric soils Present?		No		ls thi	Is this Sampling Point within a Wetland?		No
Wetland Hydrology Present?		Yes					
Remarks:	Point taken fou	r or five feet upslope fr	om WOUS, within topographi	c draw.			
HYDROLOGY							
Wetland Hydrology Indicators:				1	Secondary Indicat	ors :	1
Primary Indicators :					Surface Soil Cracks		Х
Surface Water (A1)		Water-stained Leaves	(B9)			Concave Surface (B8)	~
High Water Table (A2)		Aquatic Fauna (B13)			Drainage Patterns (		х
Saturation (A3)		Marl Deposits (B 15)			Moss Trim Lines (B	,	
Water Marks (B1)		Hydrogen Sulfide Odd	vr (C1)		Dry-Season Water	Table (C2)	
Sediment Deposits (B2)		Oxidized Rhizosphere	s on Living Roots (C3)		Crayfish Burrows (C	(8)	
Drift Deposits (B3)		Presence of Reduced	Iron (C4)		Saturation Visible or	n Aerial Imagery (C9)	
Algal Mats or Crust (B4)		Recent Iron Reduction	n in Tilled Soils (C6)		Geomorphic Positio	n (D2)	Х
Iron Deposits (B5)		Thin Muck Surface (C			Shallow Aquitard (D	. ,	
Inundation Visible on Aerial Imagery (B7)		Other (Explain in Rem	arks)		FAC-Neutral Test (I	D5)	
Field Observations:							
Surface Water Present?	No	Depth (inches):			•		
Water Table Present?	No	Depth (inches):		1	Wetland Hydrolog	y Present?	Yes
Saturation Present?	No	Depth (inches):		1			
Describe Recorded Data (Stream gauge, mo previous inspection):	nitoring well, aer	ial photograph,		+			·
Remarks:							

VEGETATION					
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
Fagus grandifolia	20	yes	FACU	# Dominant Species OBL, FACW, FAC:	6
Liriodendron tulipifera	15	yes	FACU	# of Dominant Species Across All Strata:	10
Platanus occidentalis	15	yes	FACW	Percent Dominant Species OBL, FACW, FAC:	60
	50	= Total Cover			
	50% of Total C	over =	25		
50/20 Thresholds:	20% of Total C	over =	10		
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status		
Acer rubrum	20	yes	FAC		
Asimina triloba	10	yes	FAC		
	30	= Total Cover			
	50% of Total C	over =	15		
50/20 Thresholds:	20% of Total C	over =	6		

Project: I-495 NEXT Sampling Date: 9/19/2019 Sampling Point: W12-UP

WETLAND DETERMINATION DATA FORM

Eastern Mountain and Piedmont

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic V	egetation Indicators:		
Asimina triloba	10	yes	FAC	1 - Rapid Test			No
Fagus grandifolia	5	yes	FACU	2 - Dominance	Test is >50%		Yes
				3 - Prevalence	ndex is ≤ 3.0		
				4 - Problematic	Hydrophytic Vegetation		No
							•
	15	= Total Cover					
	50% of Total C		7	.5			
50/20 Thresholds:	20% of Total C	over =		3			
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of	Vegetation Strata:		
Polygonum virginianum	10	yes	FAC	Tree:	20 ft or more in height, 3 in o	r larger diameter at	DBH
Polystichum acrostichoides	10	yes	FACU	Sapling:	20 ft or more in height, less th		
Microstegium vimineum	10	yes	FAC	Shrub:	3-20 ft in height		
Arisaema triphyllum	5	no	FACW	Herb:	less than 3 ft in height		
Athyrium filix-femina	5	no	FAC	Vine:	all woody vines		
		= Total Cover					
	50% of Total C			20			
50/20 Thresholds:	20% of Total C			8			
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status				
N/A							
				_			
				_			
		= Total Cover					
		= Total Cover			Indrophytic Vegetation Pres	ent:	Yes
50/20 Threeholder	50% of Total C	over =		0 H	lydrophytic Vegetation Pres	ent:	Yes
50/20 Thresholds:		over = over =	not used in determining pre	0		ent:	Yes
50/20 Thresholds: Remarks:	50% of Total C	over = over =	not used in determining pre	0		ent:	Yes
Remarks: SOILS	50% of Total C	over = over =	not used in determining pre	0		ent:	Yes
Remarks:	50% of Total C	over = over =	not used in determining pre	0		ent:	Yes
Remarks: SOILS Profile Description:	50% of Total C	over = over =	not used in determining pre	0		ent:	
Remarks: SOILS Profile Description: Depth	50% of Total C 20% of Total C Matrix	over = over =		0		ent:	Yes
Remarks: SOILS Profile Description: Depth Inches	50% of Total C 20% of Total C Matrix	over = over = Prevalence Index was	Redox Features Color (Moist)	0 esence of hydrophy	tic vegetation.	ent:	
Remarks: SOILS	50% of Total C 20% of Total C 20% of Total C	over = over = Prevalence Index was % %	Redox Features Color (Moist)	Ø       esence of hydrophy       %	tic vegetation.	ent:	Texture

Type: C=Concentration, D=Depletion, RM = Red	uced Matrix, CS=Cover or Coated Sand Grains; Location	n: PL=Pore Lining, M=Matrix
Hydric Soil Indicators:		
Histosol (A1)	Sandy Redox (S5)	Umbric Surface (F13)
Histic Epipedon (A2)	Stripped Matrix (S6)	Delta Ochric (F17)
Black Histic (A3)	Dark Surface (S7)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)	Polyvalue Below Surface (S8)	Piedmont Floodplain Soils (F19)
Stratified Layers (A5)	Thin Dark Surface (S9)	Anomalous Bright Loamy Soils (F20)
Organic Bodies (A6)	Loamy Mucky Mineral (F1)	1 cm Muck (A9)
5 cm Mucky Mineral (A7)	Loamy Gleyed Matrix (F2)	2 cm Muck (A10)
Muck Presence (A8)	Depleted Matrix (F3)	Reduced Vertic (F18)
1 cm Muck (A9)	Redox Dark Surface (F6)	Piedmont Floodplain Soils (F19)
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	Anomalous Bright Loamy Soils
Thick Dark Surface (A12)	Redox Depressions (F8)	Red Parent Material (TF2)
Coast Prairie Redox (A16)	Marl (F10)	Very Shallow Dark Surface (TF12)

Sandy Mucky Mineral (S1)	Depleted Ochric (F11)	Other (Explain in	
Sandy Gleyed Matrix (S4)	Iron-Manganese Masses (F12)	Remarks)	
Restrictive Layer (if observed):			
Туре:		Hydric Soils Present:	No
Depth (inches):			
Remarks:			

WETLAND DETERMINATION DATA FORM Eastern Mountain and Piedmont Project:I-495 NEXTSampling Date:8/16/2018Sampling Point:W13-WET

SITE INFORMATION -495 NEXT Fairfax County Project # & Site: City/County: Date: 8/16/2018 Applicant/Owner: VDOT State: Virginia W13-WET Sampling Point: Scott Shifflett, Laura Cooper, Kyle Investigator: Section/Township/Range: Haynes, Evan Fowler, Emily Onufer evel or Nearly Level Local Relief: Concave andform: Slope (%): Subregion: I RR P Lat/Long: 38.9630 -77.1741 NAD83 Datum: Soil Map Unit Name: Codorus and hatboro soils, 0 to 2 percent slopes, occasionally flooded PFO NWI Classification: Are climatic/hydrologic conditions on the site typical for this time of year? Yes Are "Normal Circumstances" present? Yes Are Vegetation No No No significantly disturbed? Soils or Hydrology naturally problematic? Are Vegetation No Soils No or Hydrology No SUMMARY OF FINDINGS Hydrophytic Vegetation Present? Yes Hydric soils Present? Yes Is this Sampling Point within a Wetland? Yes Wetland Hydrology Present? Yes Remarks: HYDROLOGY Wetland Hydrology Indicators: Secondary Indicators Surface Soil Cracks (B6) Primary Indicators Sparsely Vegetated Concave Surface (B8) Surface Water (A1) Water-stained Leaves (B9) Drainage Patterns (B10) Aquatic Fauna (B13) High Water Table (A2) Saturation (A3) Marl Deposits (B 15) Moss Trim Lines (B16) Х Water Marks (B1) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Crayfish Burrows (C8) Sediment Deposits (B2) x Drift Deposits (B3) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Algal Mats or Crust (B4) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Other (Explain in Remarks) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) X Field Observations: Surface Water Present? No Depth (inches): Water Table Present? No Depth (inches): Wetland Hydrology Present? Yes Depth (inches): Saturation Present? Yes Describe Recorded Data (Stream gauge, monitoring well, aerial photograph, previous inspection): Remarks: VEGETATION Absolute % Tree Stratum Dominant Species? Indicator Status Dominance Test Worksheet: Cover 40 yes FAC Acer rubrum # Dominant Species OBL, FACW, FAC: 10 no FACW Fraxinus pennsylvanica # of Dominant Species Across All Strata: 5 no FACW 100 Platanus occidentalis Percent Dominant Species OBL, FACW, FAC: Liriodendron tulipifera 5 no FACU

60 = Total Cover 50% of Total Cover = 30 12 50/20 Thresholds: 20% of Total Cover = Absolute % Sapling Stratum Dominant Species? Indicator Status Cover Fraxinus pennsylvanica 25 yes FACW Acer rubrum 5 no FAC 30 = Total Cover 15 50% of Total Cover = 6 20% of Total Cover = 50/20 Thresholds:

Project:I-495 NEXTSampling Date:8/16/2018Sampling Point:W13-WET

WETLAND DETERMINATION DATA FORM

Eastern Mountain and Piedmont

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic V	egetation Indicators	3:	
Lindera benzoin	15	yes	FAC	1 - Rapid Test			No
Fraxinus pennsylvanica	5	no	FACW	2 - Dominance	Test is >50%		Yes
				3 - Prevalence I	ndex is ≤ 3.0		
				4 - Problematic	Hydrophytic Vegetati	ion	No
							•
	20	= Total Cover					
	50% of Total C	over =	1	0			
50/20 Thresholds:	20% of Total C			4			
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of	Vegetation Strata:		
Microstegium vimineum	75	yes	FAC	Tree:		ht, 3 in or larger diameter at	DBH
Osmundastrum cinnamomeum		no	FACW	Sapling:		ht, less than 3 in DBH	
Ligustrum japonicum	5	no	UPL	Shrub:	3-20 ft in height		
Lonicera japonica	5	no	FACU	Herb:	less than 3 ft in heig	ht	
				Vine:	all woody vines		
	90	= Total Cover					
	50% of Total C		4	5			
50/20 Thresholds:	20% of Total C			8			
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status				
N/A							
	0	= Total Cover					
	50% of Total C			0 F	lydrophytic Vegetat	ion Present:	Yes
50/20 Thresholds:	20% of Total C			0			
Remarks:		-	not used in determining pre	sence of hydrophy	tic vegetation.		
SOILS							
Profile Description:							
Depth	Matrix		Redox Features				
Inches		%	Color (Moist)	%	Туре	Loc	Texture
0-12	10YR 3/2		10YR 4/6	20		M	Silt loam
-					-		
· · · · · · · · · · · · · · · · · · ·							
					1		L

Hydric Soil Indicators:					
Histosol (A1)	Sandy Redox (S5)		Umbric Surface (F13)		
Histic Epipedon (A2)	Stripped Matrix (S6)		Delta Ochric (F17)		
Black Histic (A3)	Dark Surface (S7)		Reduced Vertic (F18)		
Hydrogen Sulfide (A4)	Polyvalue Below Surface (S8)		Piedmont Floodplain Soils (F19)		
Stratified Layers (A5)	Thin Dark Surface (S9)		Anomalous Bright Loamy Soils (F20)		
Organic Bodies (A6)	Loamy Mucky Mineral (F1)		1 cm Muck (A9)		
5 cm Mucky Mineral (A7)	Loamy Gleyed Matrix (F2)		2 cm Muck (A10)		
Muck Presence (A8)	Depleted Matrix (F3)		Reduced Vertic (F18)		
I cm Muck (A9)	Redox Dark Surface (F6)	Х	Piedmont Floodplain Soils (F19)		
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)		Anomalous Bright Loamy Soils		
Thick Dark Surface (A12)	Redox Depressions (F8)		Red Parent Material (TF2)		
Coast Prairie Redox (A16)	Marl (F10)		Very Shallow Dark Surface (TF12)		
Sandy Mucky Mineral (S1)	Depleted Ochric (F11)		Other (Explain in		
Sandy Gleyed Matrix (S4)	Iron-Manganese Masses (F12)		Remarks)		
Restrictive Layer (if observed):					
Туре:	pe:		Hydric Soils Present:	Yes	
Depth (inches):					

Project:I-495 NEXTSampling Date:9/19/2019Sampling Point:W13-UP

WETLAND DETERMINATION DATA FORM

Eastern Mountain and Piedmont

SITE INFORMATION

Project # & Site:	I-495 NEXT C		City/County:	Fairfax County		Date:	9/19/2019
Applicant/Owner:	VDOT		State:	Virginia			
Investigator:	KRJ/SS		Section/Township/Range:			Sampling Point:	W13-UP
Landform:	Hillslope		Local Relief:	Convex		Slope (%):	18-20%
Subregion:	LRR P		Lat/Long:	38.968147	-77.18121	Datum:	NAD83
Soil Map Unit Name:		outcrop complex, 25 to	o 45 percent slopes			NWI Classification:	N/A
Are climatic/hydrologic conditions on the site t	ypical for this tim	ne of year?		Yes			
Are "Normal Circumstances" present?				Yes	1		
Are Vegetation	No	Soils	No	or Hydrology	No	significantly disturbed?	
Are Vegetation	No	Soils	No	or Hydrology	No	naturally problematic?	
SUMMARY OF FINDINGS							
Hydrophytic Vegetation Present?		No					
Hydric soils Present?		No		ls thi	is Sampling Point w	ithin a Wetland?	No
Wetland Hydrology Present?		No					
Remarks:	Data point take	n on very steep slope a	bove delineated wetland.				
HYDROLOGY							
Wetland Hydrology Indicators:				1	Secondary Indicato	ors :	
Primary Indicators :					Surface Soil Cracks		
Surface Water (A1)		Water-stained Leaves	(B9)			Concave Surface (B8)	
High Water Table (A2)	1	Aquatic Fauna (B13)			Drainage Patterns (E		
Saturation (A3)		Marl Deposits (B 15)			Moss Trim Lines (B1		
Water Marks (B1)		Hydrogen Sulfide Odo	r (C1)		Dry-Season Water T	, Fable (C2)	
Sediment Deposits (B2)		Oxidized Rhizospheres			Crayfish Burrows (C	(8)	
Drift Deposits (B3)		Presence of Reduced				Aerial Imagery (C9)	
Algal Mats or Crust (B4)		Recent Iron Reduction	, ,		Geomorphic Position	,	
Iron Deposits (B5)		Thin Muck Surface (C		Shallow Aquitard (D3)			
Inundation Visible on Aerial Imagery (B7)		Other (Explain in Rem		FAC-Neutral Test (D5)		,	
Field Observations:							
Surface Water Present?	No	Depth (inches):					
Water Table Present?	No	Depth (inches):		-	Wetland Hydrology	v Present?	No
Saturation Present?	No	Depth (inches):				,	
Describe Recorded Data (Stream gauge, mor previous inspection):	-	,					ł
Remarks:							
VEGETATION				-	_		
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Te	st Worksheet:		
Cercis canadensis		yes	FACU	# Dominant Spe	ecies OBL, FACW, FA	AC:	3
Fagus grandifolia	25	yes	FACU	# of Dominant S	Species Across All Str	rata:	6
				Percent Domina	ant Species OBL, FAC	CW, FAC:	50
				4			
	1			1			
		= Total Cover		1			
	50% of Total C		28				
50/20 Thresholds:	20% of Total C	over =	11				
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Ind	lex (PI) Worksheet:		
Asimina triloba	40	yes	FAC	Total Percent Cover of:			
Acer rubrum	10	yes	FAC	OBL	0	x1	0
				FACW		x2	0
				FAC	65	x3	195
				FACU		x4	280
	50	= Total Cover		UPL	0	x5	0
	EO0/ of Total C	0)/0r -	25	Total	135		475
	50% of Total C	over =			100		4/5
50/20 Thresholds:	20% of Total C			PI =	3.5		475

Project:I-495 NEXTSampling Date:9/19/2019Sampling Point:W13-UP

WETLAND DETERMINATION DATA FORM

Eastern Mountain and Piedmont

	Absolute %						
Shrub Stratum	Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:			
N/A				1 - Rapid Test	<b>.</b>		No
				2 - Dominance	Test is >50%		No
				3 - Prevalence			No
				-	Hydrophytic Vegetati	on	No
					···)-···p···)-····g-····		
	0	= Total Cover					
	50% of Total C			0			
50/20 Thresholds:	20% of Total C			0			
	Absolute %						
Herb Stratum	Cover	Dominant Species?	Indicator Status	Definitions of	Vegetation Strata:		
Lindera benzoin	15	yes	FAC	Tree:		ht, 3 in or larger diameter	at DBH
Polystichum acrostichoides		yes	FACU	Sapling:		ht, less than 3 in DBH	
Rubus phoenicolasius		no	FACU	Shrub:	3-20 ft in height	,	
,				Herb:	less than 3 ft in heig	ht	
				Vine:	all woody vines		
	30	= Total Cover					
	50% of Total C			5			
50/20 Thresholds:	20% of Total C			6			
	Absolute %						
Woody Vine Stratum	Cover	Dominant Species?	Indicator Status				
N/A	-						
				1			
	0	= Total Cover					
	50% of Total C			0	Hydrophytic Vegetat	ion Present:	No
50/20 Thresholds:	20% of Total C			0	iyalopiiyilo regetat		110
SOILS							
SOILS Profile Description: Depth	Matrix		Redox Features				Texture
SOILS Profile Description: Depth	Matrix Color (Moist)	%	Color (Moist)	%	Туре	Loc	Texture
SOILS Profile Description: Depth Inches		%	Color (Moist)	%	Туре	Loc	Texture Sandy loam
SOILS Profile Description: Depth Inches	Color (Moist)		Color (Moist)	%	Туре	Loc	
SOILS Profile Description: Depth Inches	Color (Moist) 10YR 3/2	90	Color (Moist)	%	Туре	Loc	Sandy loam
SOILS Profile Description: Depth Inches	Color (Moist) 10YR 3/2	90	Color (Moist)	%	Туре	Loc	Sandy loam
SOILS Profile Description: Depth Inches	Color (Moist) 10YR 3/2	90	Color (Moist)	%	Type	Loc	Sandy loam
SOILS Profile Description: Depth Inches D-10	Color (Moist) 10YR 3/2 10YR 7/3	90 10	Color (Moist)				Sandy loam
SOILS Profile Description: Depth nches D-10	Color (Moist) 10YR 3/2 10YR 7/3	90 10	Color (Moist)			Loc	Sandy loam
SOILS Profile Description: Depth nches D-10 Type: C=Concentration, D=Depletion, RM	Color (Moist) 10YR 3/2 10YR 7/3	90 10	Color (Moist)				Sandy loam
SOILS Profile Description: Depth Inches D-10 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators:	Color (Moist) 10YR 3/2 10YR 7/3	90 10 CS=Cover or Coated S	Color (Moist)				Sandy loam
SOILS Profile Description: Depth Inches D-10 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1)	Color (Moist) 10YR 3/2 10YR 7/3	90 10	Color (Moist)				Sandy loam
SOILS Profile Description: Depth Inches 0-10 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2)	Color (Moist) 10YR 3/2 10YR 7/3	90 10 CS=Cover or Coated S Sandy Redox (S5)	Color (Moist)		rix Umbric Surface (F1	3)	Sandy loam
SOILS Profile Description: Depth Inches D-10 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3)	Color (Moist) 10YR 3/2 10YR 7/3	90 10 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6)	Color (Moist)		Tix Umbric Surface (F1 Delta Ochric (F17)	3)	Sandy loam
SOILS Profile Description: Depth Inches 0-10 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4)	Color (Moist) 10YR 3/2 10YR 7/3	90 10 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7)	Color (Moist)		Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F13	3) 3) 5 Soils (F19)	Sandy loam
SOILS Profile Description: Depth Inches 0-10 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5)	Color (Moist) 10YR 3/2 10YR 7/3	90 10 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5)	Color (Moist)		Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F13 Piedmont Floodplair	3) 3) 5 Soils (F19)	Sandy loam
SOILS Profile Description: Depth Inches 0-10 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6)	Color (Moist) 10YR 3/2 10YR 7/3	90 10 20 20 20 20 20 20 20 20 20 20 20 20 20	Color (Moist)		Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright L	3) 3) 5 Soils (F19)	Sandy loam
SOILS Profile Description: Depth Inches 0-10 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7)	Color (Moist) 10YR 3/2 10YR 7/3	90 10 10 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5 Loamy Mucky Mineral Loamy Gleyed Matrix	Color (Moist)		Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9)	3) 3) 3) 3) 3) 5) 5) 5) 5) 5) 5 5 5 5 5	Sandy loam
SOILS Profile Description: Depth Inches 0-10 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8)	Color (Moist) 10YR 3/2 10YR 7/3	90 10 10 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S5) Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3)	Color (Moist)		Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10)	3) 3) 3) 3) 3) 50ils (F19) 50amy Soils (F20) 3)	Sandy loam
SOILS Profile Description: Depth Inches 0-10 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9)	Color (Moist) 10YR 3/2 10YR 7/3	90 10 10 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S9 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface (	Color (Moist) Color (Moist) Co		Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F15)	3) 3) 3) 3) 5) 5) 5) 5) 5) 5) 5) 5) 5) 5	Sandy loam
SOILS Profile Description: Depth Inches 0-10 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11)	Color (Moist) 10YR 3/2 10YR 7/3	90 10 10 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S9 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface (	Color (Moist) Color (Moist) Co		Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F13 Piedmont Floodplair	3) 3) 3) Soils (F19) parmy Soils (F20) 3) a Soils (F19) parmy Soils	Sandy loam
SOILS Profile Description: Depth Inches 0-10 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12)	Color (Moist) 10YR 3/2 10YR 7/3	90 10 10 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S9 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface ( Redox Depressions (F	Color (Moist) Color (Moist) Co		Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Reduced Vertic (F17) Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F13 Piedmont Floodplair Anomalous Bright L Red Parent Material	3) 3) 3) 3) 5 oils (F19) 5 oamy Soils (F20) 3) 5 oails (F19) 5 oamy Soils (F19) 5 oamy Soils (TF2)	Sandy loam
SOILS Profile Description: Depth Inches 0-10 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16)	Color (Moist) 10YR 3/2 10YR 7/3	90 10 10 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S9 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface ( Redox Depressions (F Marl (F10)	Color (Moist) Color (Moist) Co		Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Reduced Vertic (F17) Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F13 Piedmont Floodplair Anomalous Bright L Red Parent Material Very Shallow Dark S	3) 3) 3) 3) 5 oils (F19) 5 oamy Soils (F20) 3) 5 oails (F19) 5 oamy Soils (F19) 5 oamy Soils (TF2)	Sandy loam
SOILS Profile Description: Depth Inches D-10 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1)	Color (Moist) 10YR 3/2 10YR 7/3	90 10 10 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfac Thin Dark Surface (S9 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface ( Depleted Dark Surface ( Marl (F10) Depleted Ochric (F11)	Color (Moist) Color (Moist) Co		Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Reduced Vertic (F17) Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F13 Piedmont Floodplair Anomalous Bright L Red Parent Material	3) 3) 3) 3) 5 oils (F19) 5 oamy Soils (F20) 3) 5 oails (F19) 5 oamy Soils (F19) 5 oamy Soils (TF2)	Sandy loam
SOILS Profile Description: Depth nches D-10 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Color (Moist) 10YR 3/2 10YR 7/3	90 10 10 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfa Thin Dark Surface (S9 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface ( Redox Depressions (F Marl (F10)	Color (Moist) Color (Moist) Co		Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright L Red Parent Material Very Shallow Dark S Other (Explain in	3) 3) 3) 3) 5 oils (F19) 5 oamy Soils (F20) 3) 5 oails (F19) 5 oamy Soils (F19) 5 oamy Soils (TF2)	Sandy loam
SOILS Profile Description: Depth nches D-10 Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Drganic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if observed):	Color (Moist) 10YR 3/2 10YR 7/3	90 10 10 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfac Thin Dark Surface (S9 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface ( Depleted Dark Surface ( Marl (F10) Depleted Ochric (F11)	Color (Moist) Color (Moist) Co		Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F11 Piedmont Floodplair Anomalous Bright L Red Parent Material Very Shallow Dark S Other (Explain in Remarks)	3) 3) 3) 3) 3) 5 Soils (F19) 5	Sandy loam Sandy loam Sandy loam
Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) 5 cm Mucky Mineral (A7) Muck Presence (A8) 1 cm Muck (A9)	Color (Moist) 10YR 3/2 10YR 7/3	90 10 10 CS=Cover or Coated S Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surfac Thin Dark Surface (S9 Loamy Mucky Mineral Loamy Gleyed Matrix Depleted Matrix (F3) Redox Dark Surface ( Depleted Dark Surface ( Depleted Dark Surface ( Marl (F10) Depleted Ochric (F11)	Color (Moist) Color (Moist) Co		Umbric Surface (F1 Delta Ochric (F17) Reduced Vertic (F17) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright L 1 cm Muck (A9) 2 cm Muck (A10) Reduced Vertic (F17) Piedmont Floodplair Anomalous Bright L Red Parent Material Very Shallow Dark S Other (Explain in	3) 3) 3) 3) 3) 5 Soils (F19) 5	Sandy loam

Restrictive rock layer at 10 inches, small rocks throughout sample. Mixed matrix.

Remarks:

WETLAND DETERMINATION DATA FORM Eastern Mountain and Piedmont Project:I-495 NEXTSampling Date:8/16/2018Sampling Point:W14-WET

SITE INFORMATION -495 NEXT Fairfax County Project # & Site: City/County: Date: 8/16/2018 Applicant/Owner: VDOT State: Virginia W14-WET Scott Shifflett, Laura Cooper, Kyle Sampling Point: Investigator: Section/Township/Range: Haynes, Evan Fowler, Emily Onufer Floodplain Concave andform: Local Relief: Slope (%): NAD83 Subregion: I RR P Lat/Long: 38.9630 -77.1741 Datum: Soil Map Unit Name: Codorus and Hatboro soils, 0 to 2 percent slopes, occasionally flooded PFO NWI Classification: Are climatic/hydrologic conditions on the site typical for this time of year? Yes Are "Normal Circumstances" present? Yes Are Vegetation No No No significantly disturbed? Soils or Hydrology naturally problematic? Are Vegetation No Soils No or Hydrology No SUMMARY OF FINDINGS Hydrophytic Vegetation Present? Yes Hydric soils Present? Yes Is this Sampling Point within a Wetland? Yes Wetland Hydrology Present? Yes Remarks: HYDROLOGY Wetland Hydrology Indicators: Secondary Indicators Surface Soil Cracks (B6) Primary Indicators Sparsely Vegetated Concave Surface (B8) Surface Water (A1) Water-stained Leaves (B9) Drainage Patterns (B10) Aquatic Fauna (B13) High Water Table (A2) Saturation (A3) Marl Deposits (B 15) Moss Trim Lines (B16) Х Water Marks (B1) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Crayfish Burrows (C8) Sediment Deposits (B2) Drift Deposits (B3) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Algal Mats or Crust (B4) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Other (Explain in Remarks) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) X Field Observations: Surface Water Present? No Depth (inches): Water Table Present? No Depth (inches): Wetland Hydrology Present? Yes Depth (inches): Saturation Present? Yes Describe Recorded Data (Stream gauge, monitoring well, aerial photograph, previous inspection): Remarks: VEGETATION Absolute % Tree Stratum Dominant Species? Indicator Status Dominance Test Worksheet: Cover 40 yes FAC Acer rubrum # Dominant Species OBL, FACW, FAC: 10 no FACW Fraxinus pennsylvanica # of Dominant Species Across All Strata: 5 no FACW 100 Platanus occidentalis Percent Dominant Species OBL, FACW, FAC: Liriodendron tulipifera 5 no FACU

60 = Total Cover 50% of Total Cover = 30 12 50/20 Thresholds: 20% of Total Cover = Absolute % Sapling Stratum Dominant Species? Indicator Status Cover Fraxinus pennsylvanica 25 yes FACW Acer rubrum 5 no FAC 30 = Total Cover 15 50% of Total Cover = 6 20% of Total Cover = 50/20 Thresholds:

Project: I-495 NEXT Sampling Date: 8/16/2018 Sampling Point: W14-WET

WETLAND DETERMINATION DATA FORM

Eastern Mountain and Piedmont

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic V	Hydrophytic Vegetation Indicators:			
Lindera benzoin	15	yes	FAC	1 - Rapid Test			No	
Fraxinus pennsylvanica	5	yes	FACW	2 - Dominance	Test is >50%		Yes	
				3 - Prevalence	Index is ≤ 3.0			
				4 - Problematio	Hydrophytic Ve	getation	No	
						-		
	20	= Total Cover						
	50% of Total C	over =		10				
50/20 Thresholds:	20% of Total C	over =		4				
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of	Vegetation Str	ata:		
Microstegium vimineum	75	yes	FAC	Tree:	20 ft or more i	n height, 3 in or larger diameter	at DBH	
Osmundastrum cinnamomeum	5	no	FACW	Sapling:	20 ft or more i	n height, less than 3 in DBH		
Ligustrum japonicum	5	no	UPL	Shrub:	3-20 ft in heigl			
Lonicera japonica	5	no	FACU	Herb:	less than 3 ft i	n height		
				Vine:	all woody vine	S		
	90	= Total Cover			-			
	50% of Total C	over =		45				
50/20 Thresholds:	20% of Total C	over =		18				
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status					
N/A								
	0	= Total Cover						
	50% of Total C	over =			Hydrophytic Ve	egetation Present: Yes		
50/20 Thresholds:	20% of Total C	over =		0				
Remarks:		Prevalence Index was	not used in determining pre	esence of hydrophy	ytic vegetation.			
SOILS								
Profile Description:								
Depth	Matrix		Redox Features				Texture	
Inches	Color (Moist)	%	Color (Moist)	%	Туре	Loc	Texture	
0-12	10YR 4/2	80	10YR 5/6	20	0 C	Μ	Silt loam	
	İ							
	İ							

Hydric Soil Indicators:					
Histosol (A1)	Sandy Redox (S5)		Umbric Surface (F13)		
Histic Epipedon (A2)	Stripped Matrix (S6)		Delta Ochric (F17)		
Black Histic (A3)	Dark Surface (S7)		Reduced Vertic (F18)		
Hydrogen Sulfide (A4)	Polyvalue Below Surface (S8)		Piedmont Floodplain Soils (F19)		
Stratified Layers (A5)	Thin Dark Surface (S9)		Anomalous Bright Loamy Soils (F20)		
Organic Bodies (A6)	Loamy Mucky Mineral (F1)		1 cm Muck (A9)		
5 cm Mucky Mineral (A7)	Loamy Gleyed Matrix (F2)		2 cm Muck (A10)		
Muck Presence (A8)	Depleted Matrix (F3)	Х	Reduced Vertic (F18)		
1 cm Muck (A9)	Redox Dark Surface (F6)		Piedmont Floodplain Soils (F19)		
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)		Anomalous Bright Loamy Soils		
Thick Dark Surface (A12)	Redox Depressions (F8)		Red Parent Material (TF2)		
Coast Prairie Redox (A16)	Marl (F10)		Very Shallow Dark Surface (TF12)		
Sandy Mucky Mineral (S1)	Depleted Ochric (F11)		Other (Explain in		
Sandy Gleyed Matrix (S4)	Iron-Manganese Masses (F12)		Remarks)		
Restrictive Layer (if observed):					
Гуре:	De:		Hydric Soils Present:	Yes	
Depth (inches):					

Project:I-496 NEXTSampling Date:9/16/2019Sampling Point:UPLAND 1

WETLAND DETERMINATION DATA FORM Eastern Mountain and Piedmont

SITE INFORMATION							
Project # & Site:	I-495 NEXT		City/County:	Fairfax County		Date:	9/16/2019
Applicant/Owner:	VDOT		State:	Virginia			
Investigator:	KRJ/SHS		Section/Township/Range:			Sampling Point:	UPLAND 1
Landform:	Hillslope		Local Relief:	Convex		Slope (%):	2-4%
Subregion:	LRR P		Lat/Long:	38.928199	-77.205965	Datum:	NAD83
Soil Map Unit Name:	Wheaton-Mea	dowville complex, 2 to 7	percent slopes			NWI Classification:	N/A
Are climatic/hydrologic conditions on the site	typical for this ti	me of year?		Yes		INWI Classification.	IN/A
Are "Normal Circumstances" present?				Yes			
Are Vegetation	No	Soils	No	or Hydrology	No	significantly disturbed?	
Are Vegetation	No	Soils	No	or Hydrology	No	naturally problematic?	
		•	•				
SUMMARY OF FINDINGS							
Hydrophytic Vegetation Present?		Yes					
Hydric soils Present?		No		ls th	is Sampling Point w	vithin a Wetland?	No
Wetland Hydrology Present?		No					
Remarks:	1 ont taken in		ardwood area, and upslope f	forn stream.			
Wetland Hydrology Indicators:				-	Secondary Indicat	ors :	
Primary Indicators :					Surface Soil Cracks		
Surface Water (A1)		Water-stained Leaves	(B9)			Concave Surface (B8)	
High Water Table (A2)		Aquatic Fauna (B13)	(20)		Drainage Patterns (	( )	
Saturation (A3)		Marl Deposits (B 15)		Moss Trim Lines (B16)			
Water Marks (B1)		Hydrogen Sulfide Odd	or (C1)		Dry-Season Water Table (C2)		
Sediment Deposits (B2)			s on Living Roots (C3)		Crayfish Burrows (C8)		
Drift Deposits (B3)		Presence of Reduced	• • • •	Saturation Visible on Aerial Imagery (C9)			
Algal Mats or Crust (B4)		Recent Iron Reduction		Geomorphic Position (D2)			
Iron Deposits (B5)		Thin Muck Surface (C			Shallow Aguitard (D3)		
Inundation Visible on Aerial Imagery (B7)		Other (Explain in Rem			FAC-Neutral Test (D5)		
Field Observations:							
Surface Water Present?	No	Depth (inches):			1	1	
Water Table Present?	No	Depth (inches):			Wetland Hydrolog	y Present?	No
Saturation Present?	No	Depth (inches):		-			
Describe Recorded Data (Stream gauge, mo previous inspection):	nitoring well, ae	rial photograph,		+			
Remarks:							

VEGETATION				
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
Acer rubrum	30	yes	FAC	# Dominant Species OBL, FACW, FAC:
Acer saccharinum	20	yes	FACW	# of Dominant Species Across All Strata:
				Percent Dominant Species OBL, FACW, FAC:
	50	= Total Cover		
	50% of Total C	over =	25	
50/20 Thresholds:	20% of Total C	over =	10	
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status	
llex opaca	5	yes	FACU	
	5	= Total Cover		
	50% of Total C	over =	2.5	
50/20 Thresholds:	20% of Total C	over =	1	

Project:I-496 NEXTSampling Date:9/16/2019Sampling Point:UPLAND 1

WETLAND DETERMINATION DATA FORM

Eastern Mountain and Piedmont

	Aboot 1:01						
Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:			
Lonicera maackii		yes	UPL	1 - Rapid Test			No
Lindera benzoin		yes	FAC	2 - Dominance Test is >50%			Yes
		,00			e Index is ≤ 3.0		100
					tic Hydrophytic Vegetatio	מר	No
				- Trobicina			110
	65	= Total Cover		-			
	50% of Total C		32.	5			
50/20 Thresholds:	20% of Total C						
50/20 Thresholds:	Absolute %			-			
Herb Stratum	Cover	Dominant Species?	Indicator Status	Definitions of	of Vegetation Strata:		
N/A				Tree:		ht, 3 in or larger diameter a	t DBH
				Sapling:		ht, less than 3 in DBH	
				Shrub:	3-20 ft in height		
				Herb:	less than 3 ft in heigh	ht	
				Vine:	all woody vines		
	0	= Total Cover		vinc.			
	50% of Total C			0			
50/20 Throsholdo	20% of Total C			0			
50/20 Thresholds:	Absolute %						
Woody Vine Stratum	Cover	Dominant Species?	Indicator Status				
Lonicera japonica		yes	FACU	-			
Toxicodendron radicans		yes	FAC				
Vitis rotundifolia		yes	FAC	-			
		,00		-			
				-			
	40	= Total Cover					
	50% of Total C		2	0	Hydrophytic Vegetati	on Present.	Yes
50/20 Thresholds:	20% of Total C			8	nyaropnytic vegetati	ion resent.	163
SOILS							
Profile Description:	n -		1				1
Depth	Matrix	1	Redox Features	- <b>1</b>	_	0-	Texture
Inches	Color (Moist)	%	Color (Moist)	%	Туре	Loc	
0-8	7.5YR 4/4		2.5YR 4/8		5 D	M	Sandy clay loam
8-24+	7.5YR 5/8	95	7.5YR 2.5/1		5 C	Μ	Sandy clay loam
					Iron man	ganese masses.	
Type: C=Concentration, D=Depletion, RM =	Reduced Matrix,	CS=Cover or Coated S	and Grains; Location: PL=Po	ore Lining, M=M	atrix		
Hydric Soil Indicators:							
Histosol (A1)		Sandy Redox (S5)			Umbric Surface (F13	3)	
Histic Epipedon (A2)		Stripped Matrix (S6)			Delta Ochric (F17)		
Black Histic (A3)		Dark Surface (S7)			Reduced Vertic (F18	3)	
Hydrogen Sulfide (A4)		Polyvalue Below Surfa	ice (S8)		Piedmont Floodplain Soils (F19)		
Stratified Layers (A5)		Thin Dark Surface (S9	)		Anomalous Bright Loamy Soils (F20)		
Organic Bodies (A6)		Loamy Mucky Mineral	(F1)		1 cm Muck (A9)		
5 cm Mucky Mineral (A7)		Loamy Gleyed Matrix	· ·		2 cm Muck (A10)		
Muck Presence (A8)		Depleted Matrix (F3)			Reduced Vertic (F18)		
1 cm Muck (A9)	1	Redox Dark Surface (	F6)		Piedmont Floodplain	Soils (F19)	
Depleted Below Dark Surface (A11)		Depleted Dark Surface	,		Anomalous Bright Lo	amy Soils	
Thick Dark Surface (A12)		Redox Depressions (F			Red Parent Material	(TF2)	
Coast Prairie Redox (A16)		Marl (F10)	,		Very Shallow Dark S	Surface (TF12)	
Sandy Mucky Mineral (S1)		Depleted Ochric (F11)			Other (Explain in		
Sandy Gleyed Matrix (S4)		Iron-Manganese Mass			Remarks)		
Restrictive Layer (if observed):			· /				
	4						1

 Restrictive Layer (if observed):
 Hydric Soils Present:
 No

 Type:
 Depth (inches):
 Hydric Soils Present:
 No

 Remarks:
 Rocks throughout soil sample.

Eastern Mountain and Piedmont

Project:I-495 NEXTSampling Date:9/18/2019Sampling Point:UPLAND 2

SITE INFORMATION I-495 NEXT Fairfax County 9/18/2019 Project # & Site: City/County: Date: VDOT Applicant/Owner: State: Virginia Sampling Point: UPLAND 2 Investigator: KRJ/SS Section/Township/Range: Level or Nearly Level Local Relief: Concave 0-2% andform: Slope (%): Subregion: LRR P Lat/Long: 38.958566 -77.193775 Datum: NAD83 Soil Map Unit Name: Glenelg silt loam, 7 to 15 percent slopes N/A NWI Classification: Are climatic/hydrologic conditions on the site typical for this time of year? Yes Are "Normal Circumstances" present? Yes Are Vegetation No Soils No or Hydrology No significantly disturbed? Are Vegetation No Soils No or Hydrology No naturally problematic? SUMMARY OF FINDINGS Hydrophytic Vegetation Present? No Hydric soils Present? No Is this Sampling Point within a Wetland? No Wetland Hydrology Present? No Remarks: Point taken in middle of hardwood forest. HYDROLOGY Wetland Hydrology Indicators: Secondary Indicators Surface Soil Cracks (B6) Primary Indicators Sparsely Vegetated Concave Surface (B8) Surface Water (A1) Water-stained Leaves (B9) Aquatic Fauna (B13) Drainage Patterns (B10) High Water Table (A2) Saturation (A3) Marl Deposits (B 15) Moss Trim Lines (B16) Water Marks (B1) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Crayfish Burrows (C8) Sediment Deposits (B2) Presence of Reduced Iron (C4) Drift Deposits (B3) Saturation Visible on Aerial Imagery (C9) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Algal Mats or Crust (B4) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Other (Explain in Remarks) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Field Observations: Surface Water Present? No Depth (inches): Wetland Hydrology Present? Water Table Present? No Depth (inches): No Depth (inches): Saturation Present? No Describe Recorded Data (Stream gauge, monitoring well, aerial photograph, previous inspection): Remarks: VEGETATION

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Tes	st Worksheet:		
Liriodendron tulipifera	70	yes	FACU	# Dominant Spe	cies OBL, FACW, FA	IC:	3
				# of Dominant S	pecies Across All Str	ata:	6
				Percent Domina	nt Species OBL, FAC	W, FAC:	50
	70	= Total Cover					
	50% of Total C	over =	35				
50/20 Thresholds:	20% of Total C	over =	14				
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Ind	ex (PI) Worksheet:		
Acer negundo	10	yes	FAC	Total Percent C	over of:		
Fagus grandifolia	10	yes	FACU	OBL	0	x1	0
Liriodendron tulipifera	10	yes	FACU	FACW	0	x2	0
llex opaca	5	no	FACU	FAC	105	x3	315
				FACU	100	x4	400
	35	= Total Cover		UPL	0	x5	0
	50% of Total C	over =	17.5	Total	205		715
50/20 Thresholds:	20% of Total C	over =	7	PI =	3.5		

Project:I-495 NEXTSampling Date:9/18/2019Sampling Point:UPLAND 2

WETLAND DETERMINATION DATA FORM

Eastern Mountain and Piedmont

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic V	egetation Indicators:	
Lindera benzoin	70	yes	FAC	1 - Rapid Test		No
				2 - Dominance	Test is >50%	No
				3 - Prevalence	Index is ≤ 3.0	No
				4 - Problematic	Hydrophytic Vegetation	No
	70	= Total Cover				
	50% of Total C	over =	35			
50/20 Thresholds:	20% of Total C	over =	14			
Herb Stratum	Cover	Dominant Species?	Indicator Status	Definitions of	Vegetation Strata:	
Lindera benzoin	20	yes	FAC	Tree:	20 ft or more in height, 3 in or larger diameter at	DBH
Polygonum virginianum	5	no	FAC	Sapling:	20 ft or more in height, less than 3 in DBH	
Alliaria petiolata	5	no	FACU	Shrub:	3-20 ft in height	
				Herb:	less than 3 ft in height	
				Vine:	all woody vines	
	30	= Total Cover				
	50% of Total C	over =	15			
50/20 Thresholds:	20% of Total C	over =	6			
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status			
N/A						
				-		
				<b></b>		1
		= Total Cover		1		
	50% of Total C		0		Hydrophytic Vegetation Present:	No
50/20 Thresholds:	20% of Total C	over =	0			
Remarks:						

SOILS							
Profile Description:							
Depth	Matrix		Redox Features				Texture
nches	Color (Moist)	%	Color (Moist)	%	Туре	Loc	Texture
0-20	5YR 4/6	100	)				Clay loam
20-24	5YR 5/6	100	)				Clay loam
Type: C=Concentration, D=Depletion, F	RM = Reduced Matrix,	CS=Cover or Coated S	Sand Grains; Location: PL=Po	ore Lining, M=N	Matrix		
Hydric Soil Indicators:							
Histosol (A1)		Sandy Redox (S5)			Umbric Surface (F1	3)	
Histic Epipedon (A2)		Stripped Matrix (S6)			Delta Ochric (F17)		
Black Histic (A3)		Dark Surface (S7)			Reduced Vertic (F1	8)	
Hydrogen Sulfide (A4)		Polyvalue Below Surfa	ace (S8)		Piedmont Floodplai	n Soils (F19)	
Stratified Layers (A5)		Thin Dark Surface (SS	9)		Anomalous Bright L	oamy Soils (F20)	
Organic Bodies (A6)		Loamy Mucky Mineral	l (F1)		1 cm Muck (A9)		
5 cm Mucky Mineral (A7)		Loamy Gleyed Matrix	(F2)		2 cm Muck (A10)		
Muck Presence (A8)		Depleted Matrix (F3)			Reduced Vertic (F1	,	
1 cm Muck (A9)		Redox Dark Surface (	(F6)		Piedmont Floodplai	. ,	
Depleted Below Dark Surface (A11)		Depleted Dark Surfac	( )		Anomalous Bright L	,	
Thick Dark Surface (A12)		Redox Depressions (I	F8)		Red Parent Materia		
Coast Prairie Redox (A16)		Marl (F10)			Very Shallow Dark	Surface (TF12)	
Sandy Mucky Mineral (S1)		Depleted Ochric (F11)	/		Other (Explain in		
Sandy Gleyed Matrix (S4)		Iron-Manganese Mass	ses (F12)		Remarks)		
Destriction I seem (if all serves d).				_			
Restrictive Layer (if observed):				1	Hydric Soils P	racanti	No
Type: Depth (inches):					Hydric Solis P	lesent.	

Eastern Mountain and Piedmont

Project:I-495 NEXTSampling Date:9/19/2019Sampling Point:UPLAND 3

Shallow Aquitard (D3)

FAC-Neutral Test (D5)

SITE INFORMATION I-495 NEXT Fairfax County 9/19/2019 Project # & Site: City/County: Date: VDOT Applicant/Owner: State: Virginia Sampling Point: UPLAND 3 Investigator: KRJ/SS Section/Township/Range: Hillslope Local Relief: Concave 13-15% Landform: Slope (%): Subregion: LRR P Lat/Long: 38.96541 -77.18377 Datum: NAD83 Soil Map Unit Name: Glenelg silt loam, 25 to 45 percent slopes NWI Classification: N/A Are climatic/hydrologic conditions on the site typical for this time of year? Yes Are "Normal Circumstances" present? Yes Are Vegetation No Soils No or Hydrology No significantly disturbed? Are Vegetation No Soils No or Hydrology No naturally problematic? SUMMARY OF FINDINGS Hydrophytic Vegetation Present? No Hydric soils Present? Is this Sampling Point within a Wetland? No No Wetland Hydrology Present? No Remarks: Point taken at top of WOUS, between houses on both sides. Located within topographic draw above WOUS. HYDROLOGY Wetland Hydrology Indicators: Secondary Indicators Surface Soil Cracks (B6) Primary Indicators Sparsely Vegetated Concave Surface (B8) Surface Water (A1) Water-stained Leaves (B9) Drainage Patterns (B10) Aquatic Fauna (B13) High Water Table (A2) Saturation (A3) Marl Deposits (B 15) Moss Trim Lines (B16) Water Marks (B1) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Crayfish Burrows (C8) Sediment Deposits (B2) Presence of Reduced Iron (C4) Drift Deposits (B3) Saturation Visible on Aerial Imagery (C9) Algal Mats or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2)

Field Observations:									
Surface Water Present?	No	Depth (inches):							
Water Table Present?	No	Depth (inches):			Wetland Hydrology	/ Present?	No		
Saturation Present?	No	Depth (inches):							
Describe Recorded Data (Stream g previous inspection):	gauge, monitoring well, aer	al photograph,							
Remarks:									
VEGETATION									
Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Tes	st Worksheet:				
Liriodendron tulipifera	35	yes	FACU	# Dominant Spe	cies OBL, FACW, FA	NC:	2		
Fagus grandifolia	20	yes	FACU	# of Dominant S	pecies Across All Str	ata:	5		
Acer negundo	20	yes	FAC	Percent Domina	nt Species OBL, FAC	CW, FAC:	40		

Thin Muck Surface (C7)

Other (Explain in Remarks)

Iron Deposits (B5)

Inundation Visible on Aerial Imagery (B7)

Acer negundo	20	yes	FAC	Percent Domina	ant Species OBL, FAC	W, FAC:	40
				-			
	75	= Total Cover					
	50% of Total C	over =	38	6			
50/20 Thresholds:	20% of Total C	over =	15				
Sapling Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Ind	lex (PI) Worksheet:		
Acer rubrum	30	yes	FAC	Total Percent C	over of:		
				OBL	0	x1	0
				FACW	0	x2	0
				FAC	50	x3	150
				FACU	55	x4	220
	30	= Total Cover		UPL	0	x5	0
	50% of Total C	over =	15	Total	105		370
50/20 Thresholds:	20% of Total C	over =	6	PI =	3.5		

Project:I-495 NEXTSampling Date:9/19/2019Sampling Point:UPLAND 3

WETLAND DETERMINATION DATA FORM

Eastern Mountain and Piedmont

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic V	egetation Indicators:				
Phyllostachys aureosulcata	15	yes	UPL	1 - Rapid Test	2	No			
				No					
				3 - Prevalence	Index is ≤ 3.0	No			
				4 - Problematic	Hydrophytic Vegetation	No			
	15	= Total Cover		1					
	50% of Total C	over =	7.5	1					
50/20 Thresholds:	20% of Total C	over =	3						
Herb Stratum		Dominant Species?	Indicator Status	Definitions of	Vegetation Strata:				
N/A				Tree:     20 ft or more in height, 3 in or larger diameter at DBH       Sapling:     20 ft or more in height, less than 3 in DBH       Shrub:     3-20 ft in height       Herb:     less than 3 ft in height       Vine:     all woody vines					
				Sapling:	20 ft or more in height, less than 3 in DBH				
				Shrub:	3-20 ft in height				
				Herb:	less than 3 ft in height				
				Vine:	all woody vines				
	0	= Total Cover							
	50% of Total C	over =	0						
50/20 Thresholds:	20% of Total C	over =	0						
Woody Vine Stratum		Dominant Species?	Indicator Status						
N/A				1					
				1					
	Cover       Tree       20 ft or more in height, 3 in or larger diameter at DB         A       Tree:       20 ft or more in height, 3 in or larger diameter at DB         Sapling:       20 ft or more in height, less than 3 in DBH         Sapling:       20 ft or more in height, less than 3 in DBH         Shrub:       3-20 ft in height         Image: Sapling:       20 ft or more in height, less than 3 in DBH         Shrub:       3-20 ft in height         Image: Sapling:       20 ft or more in height, less than 3 in DBH         Image: Sapling:       20 ft or more in height, less than 3 in DBH         Image: Sapling:       20 ft or more in height         Image: Sapling:       3-20 ft in height         Image: Sapling: Sap								
	0	= Total Cover							
	50% of Total C	over =	0	ŀ	Hydrophytic Vegetation Present:	No			
50/20 Thresholds:	20% of Total C	over =	0						
Remarks:									
		1							
SOILS									
Profile Description:									

Profile Description:								
Depth	Matrix		Redox Features					Texture
nches	Color (Moist)	%	Color (Moist)	%		Туре	Loc	rexture
0-20	10YR 4/3	90	5YR 5/6		10	С	М	Sandy loam
20-24	7.5YR 4/4	95	5YR 5/8		5	С	М	Sandy loam
Type: C=Concentration, D=Depletion, I	RM = Reduced Matrix,	CS=Cover or Coated S	and Grains; Location:	PL=Pore Lining, M	1=Matr	ix		
Hydric Soil Indicators:						1		
Histosol (A1)		Sandy Redox (S5)				Umbric Surface (	/	
Histic Epipedon (A2)		Stripped Matrix (S6)				Delta Ochric (F17	,	
Black Histic (A3)		Dark Surface (S7)				Reduced Vertic (	/	
Hydrogen Sulfide (A4)		Polyvalue Below Surfa	( )			Piedmont Floodp	( )	
Stratified Layers (A5)		Thin Dark Surface (SS	9)			0	t Loamy Soils (F20)	
Organic Bodies (A6)		Loamy Mucky Mineral	(F1)			1 cm Muck (A9)		
5 cm Mucky Mineral (A7)		Loamy Gleyed Matrix	(F2)			2 cm Muck (A10)		
Muck Presence (A8)		Depleted Matrix (F3)				Reduced Vertic (	,	
I cm Muck (A9)		Redox Dark Surface (	F6)			Piedmont Floodp	( )	
Depleted Below Dark Surface (A11)		Depleted Dark Surfac	e (F7)			Anomalous Brigh		
Thick Dark Surface (A12)		Redox Depressions (F	-8)			Red Parent Mate	· · /	
Coast Prairie Redox (A16)		Marl (F10)				Very Shallow Dar	k Surface (TF12)	
Sandy Mucky Mineral (S1)		Depleted Ochric (F11)				Other (Explain in		
Sandy Gleyed Matrix (S4)		Iron-Manganese Mass	ses (F12)			Remarks)		
Restrictive Layer (if observed):								
Гуре:						Hydric Soils	Present:	No
Depth (inches):								

Project:I-495 NEXTSampling Date:9/18/2019Sampling Point:UPLAND 4

WETLAND DETERMINATION DATA FORM Eastern Mountain and Piedmont

SITE INFORMATION -495 NEXT Fairfax County Project # & Site: City/County: Date: 9/18/2019 Applicant/Owner: VDOT State: Virginia UPLAND 4 Sampling Point: Investigator: KRJ/SS Section/Township/Range: evel or Nearly Level Concave 2-4% andform: Local Relief: Slope (%): Subregion: I RR P Lat/Long: 38.959615 -77.193331 NAD83 Datum: Soil Map Unit Name: Glenelg silt loam, 7 to 15 percent slopes N/A NWI Classification: Are climatic/hydrologic conditions on the site typical for this time of year? Yes Are "Normal Circumstances" present? Yes Are Vegetation No Soils No or Hydrology No significantly disturbed? naturally problematic? Are Vegetation No Soils No or Hydrology No SUMMARY OF FINDINGS Hydrophytic Vegetation Present? No Hydric soils Present? No Is this Sampling Point within a Wetland? No Wetland Hydrology Present? No Remarks: Point taken in dranage swale. HYDROLOGY Wetland Hydrology Indicators: Secondary Indicators Surface Soil Cracks (B6) Primary Indicators Sparsely Vegetated Concave Surface (B8) Surface Water (A1) Water-stained Leaves (B9) Drainage Patterns (B10) Aquatic Fauna (B13) High Water Table (A2) Saturation (A3) Marl Deposits (B 15) Moss Trim Lines (B16) Water Marks (B1) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Crayfish Burrows (C8) Sediment Deposits (B2) Drift Deposits (B3) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Algal Mats or Crust (B4) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Other (Explain in Remarks) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Field Observations: Surface Water Present? No Depth (inches): Water Table Present? No Depth (inches): Wetland Hydrology Present? No Saturation Present? No Depth (inches):

Remarks:

previous inspection):

Describe Recorded Data (Stream gauge, monitoring well, aerial photograph,

VEGETATION Absolute % Tree Stratum **Dominant Species?** Indicator Status Dominance Test Worksheet: Cover 60 yes FACU Liriodendron tulipifera # Dominant Species OBL, FACW, FAC: # of Dominant Species Across All Strata: Percent Dominant Species OBL, FACW, FAC: 50 60 = Total Cover 50% of Total Cover = 30 12 50/20 Thresholds: 20% of Total Cover = Absolute % Sapling Stratum Dominant Species? Indicator Status Cover Prevalence Index (PI) Worksheet: 40 yes Acer rubrum FAC Total Percent Cover of: 20 yes Asimina tribola FAC OBL 0 x1 FACU Fagus grandifolia 20 yes FACW 0 x2 70 x3 FAC 210 x4 FACU 85 340 80 = Total Cover UPL 0 x5 40 Total 550 50% of Total Cover = 155 16 PI = 20% of Total Cover = 3.5 50/20 Thresholds:

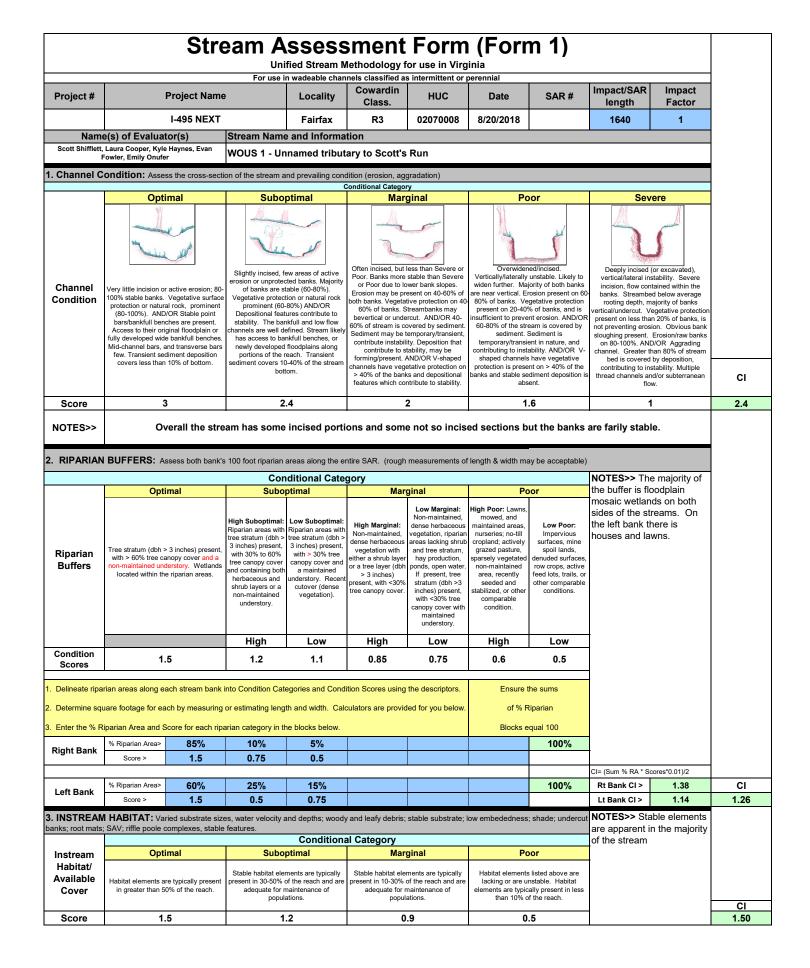
Project:I-495 NEXTSampling Date:9/18/2019Sampling Point:UPLAND 4

WETLAND DETERMINATION DATA FORM

Eastern Mountain and Piedmont

Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Ну	ydrophytic Ve	egetation Indicators:	
Lindera benzoin	10	yes	FAC	1 ·	- Rapid Test		No
				2 ·	- Dominance 1	Test is >50%	No
				3 -	- Prevalence I	ndex is ≤ 3.0	No
				4 -	- Problematic	Hydrophytic Vegetation	No
	10	= Total Cover					
	50% of Total C	over =		5			
50/20 Thresholds:	20% of Total C	over =		2			
Herb Stratum	Cover	Dominant Species?	Indicator Status	De	efinitions of \	/egetation Strata:	
Polystichum acrostichoides	5	yes	FACU	Tr	ree:	20 ft or more in height, 3 in or larger diameter at	DBH
	Sapling:     20 ft or more in height, less than 3 in DBH       Shrub:     3-20 ft in height						
				Sh	hrub:	3-20 ft in height	
				He	erb:	less than 3 ft in height	
				Vi	ne:	all woody vines	
	5	= Total Cover					
	50% of Total C	over =		2.5			
50/20 Thresholds:	20% of Total C	over =		1			
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status				
N/A							
				_			
		= Total Cover					
	50% of Total C			0	н	lydrophytic Vegetation Present:	No
50/20 Thresholds:	20% of Total C	over =		0			
Remarks:							

SOILS							
Profile Description:							
Depth	Matrix		Redox Features				Texture
nches	Color (Moist)	%	Color (Moist)	%	Туре	Loc	Texture
D-8	5YR 3/3	100					Sandy loam
3-24	5YR 4/6	95	2.5YR 5/8	5	i C	М	Sandy loam
Type: C=Concentration, D=Depletion, R	M = Reduced Matrix,	CS=Cover or Coated S	Sand Grains; Location: PL=Po	ore Lining, M=Mat	rix		
Hydric Soil Indicators:							
Histosol (A1)		Sandy Redox (S5)			Umbric Surface (F1	3)	
Histic Epipedon (A2)		Stripped Matrix (S6)			Delta Ochric (F17)		
Black Histic (A3)		Dark Surface (S7)			Reduced Vertic (F18	3)	
Hydrogen Sulfide (A4)		Polyvalue Below Surfa	ace (S8)		Piedmont Floodplair	n Soils (F19)	
Stratified Layers (A5)		Thin Dark Surface (SS	/		Anomalous Bright L	pamy Soils (F20)	
Organic Bodies (A6)		Loamy Mucky Mineral	(F1)		1 cm Muck (A9)		
5 cm Mucky Mineral (A7)		Loamy Gleyed Matrix	(F2)		2 cm Muck (A10)		
Muck Presence (A8)		Depleted Matrix (F3)			Reduced Vertic (F18	7	
1 cm Muck (A9)		Redox Dark Surface (	F6)		Piedmont Floodplain	( )	
Depleted Below Dark Surface (A11)		Depleted Dark Surfac	e (F7)		Anomalous Bright Le	,	
Thick Dark Surface (A12)		Redox Depressions (F	-8)		Red Parent Material		
Coast Prairie Redox (A16)		Marl (F10)			Very Shallow Dark S	Surface (TF12)	
Sandy Mucky Mineral (S1)		Depleted Ochric (F11)			Other (Explain in		
		Iron-Manganese Mass	ses (F12)		Remarks)		
Sandy Gleyed Matrix (S4)							
Restrictive Layer (if observed):							
				_	Hydric Soils Pr	esent:	No

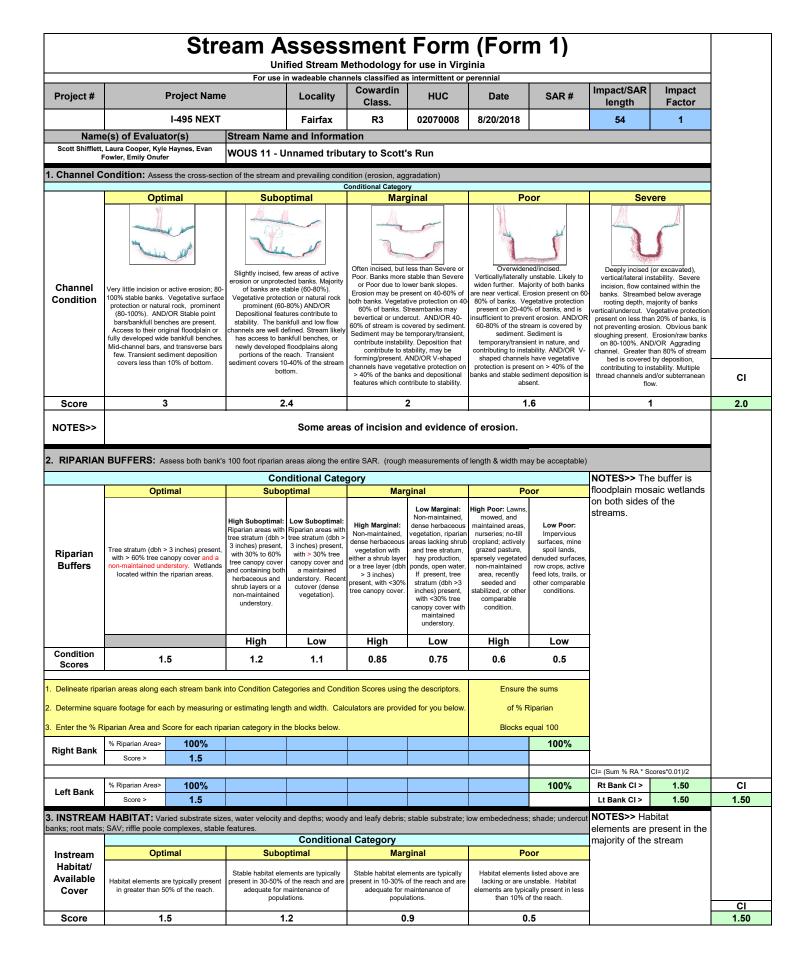


Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor				
	VDOT		Fairfax	R3	0207008	8/20/18	WOUS 1						
	L ALTERATION: Stream crossin rictions, livestock	gs, riprap, concre			ightening of chanr	el, channelization	i, embankments,	NOTES>> alteration/straightening has					
	Negligible	Conditional Category         occurred in a small portion           Negligible         Minor         Moderate         Severe         of the stream.											
Channel Alteration	Channelization, dredging, alteration, or hardening absent. Stream has an unaltered pattern or has naturalized.	Less than 20% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	the channel alterations listed in the parameter guidelines.	of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	Greater than 80% of reach is disrupter by any of the channel alterations lister in the parameter guidelines AND/OR 80% of banks shored with gabion, riprap, or cement.		*					
SCORE	1.5	1.3	1.1	0.9	0.7	0	.5			1.3			
	REACH (	CONDITION I	NDEX and S	TREAM CON	NDITION UNI	TS FOR THI	S REACH						
OTE: The CIs and F	RCI should be rounded to 2 decimal places. Th	e CR should be round	ed to a whole number.				THE REACH	CONDITION IN	IDEX (RCI) >>	1.2			
	RCI= (Sum of all CI's)/5								l's)/5				
							COMPENSAT	ION REQUIRE	MENT (CR) >>	211			
							CR = RC	X LF X IF					





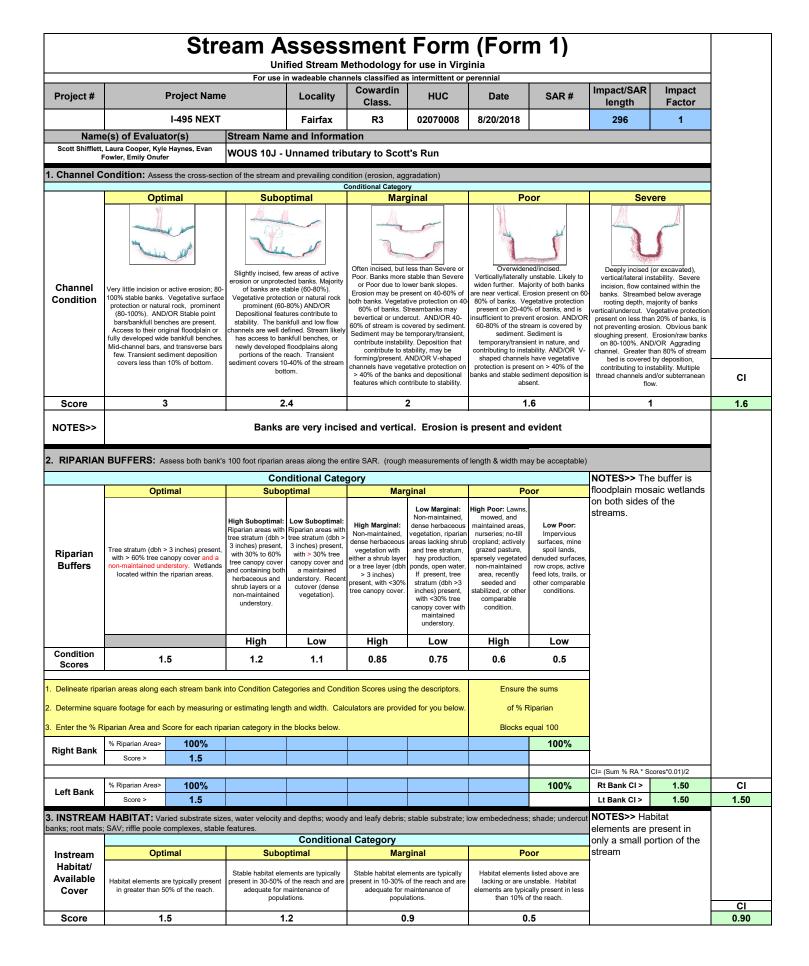




Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor	
	VDOT		Fairfax	R3	0207008	8/20/18	WOUS 11			
	ALTERATION: Stream crossin rictions, livestock	gs, riprap, concret	-		ghtening of chann	el, channelizatior	n, embankments,		aightening has	
	Negligible	Mir		al Category	erate	6.	vere		on this stream	
Channel Alteration	Channelization, dredging, alteration, or hardening absent. Stream has an unaltered pattern or has naturalized.	the channel alterations listed in the parameter guidelines.	the channel alterations listed in the parameter guidelines.	of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	60 - 80% of reach is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	by any of the chan in the parameter 80% of banks sh riprap, c	of reach is disrupted nel alterations listed guidelines AND/OR tored with gabion, or cement.	appears undis	near I-495, however the remainder of the stream appears undisturbed.	
SCORE	1.5	1.3	1.1	0.9	0.7	0	.5			1.3
	REACH (	CONDITION I	NDEX and S	TREAM CON	DITION UNI	TS FOR THI	S REACH			
OTE: The CIs and F	CI should be rounded to 2 decimal places. Th	e CR should be rounde	d to a whole number.				THE REACH	CONDITION IN	IDEX (RCI) >>	1.2
				RCI= (Sum of all CI's)/5						
							COMPENSAT	TION REQUIRE	MENT (CR) >>	68
							CR = RC	I X LF X IF		





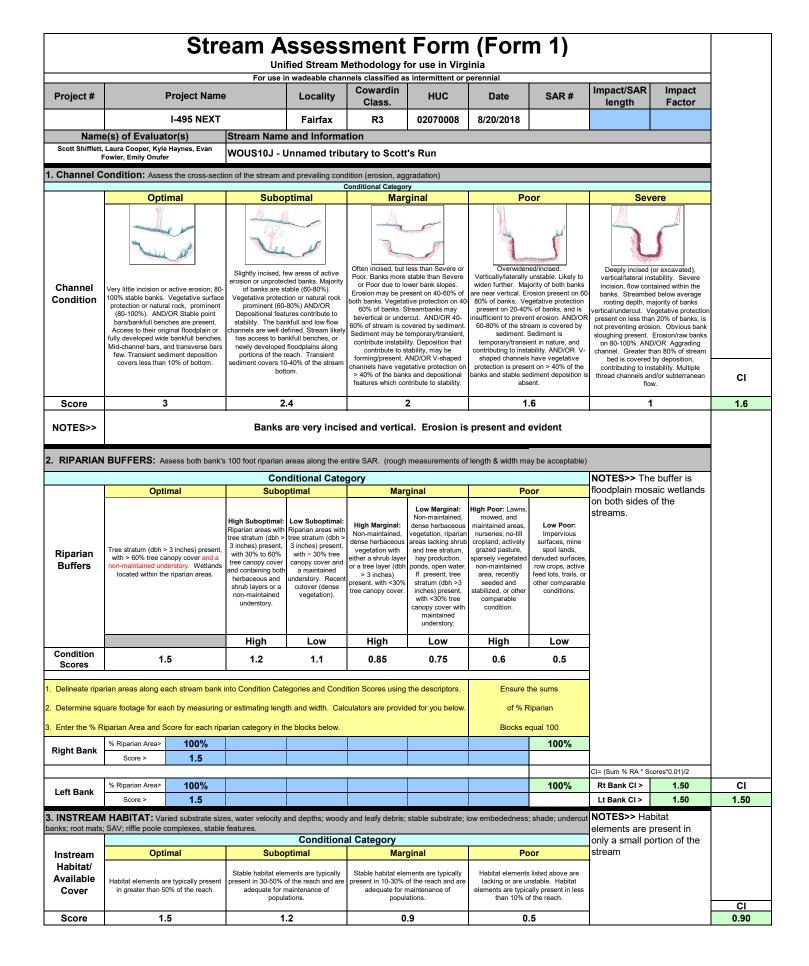


Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor			
	VDOT		Fairfax	R3	0207008	8/20/18	10J					
	LALTERATION: Stream crossin rictions, livestock	ngs, riprap, concret	e, gabions, or cor	ncrete blocks, strai	ghtening of chann	el, channelizatior	n, embankments,	NOTES>> alteration/stra				
				al Category				not occurred	on this stream			
	Negligible	Negligible         Minor         Moderate         Severe           40 - 60% of reach         60 - 80% of reach         60         60% of reach										
Channel Alteration	hardening absent. Stream has an unaltered pattern or has naturalized.	Less than 20% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	the channel	is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.		Greater than 80% of reach is disrupte by any of the channel alterations lister in the parameter guidelines AND/OR 80% of banks shored with gabion, riprap, or cement.						
SCORE	1.5	1.3	1.1	0.9	0.7	0	.5			1.5		
	REACH (	CONDITION I	NDEX and S		IDITION UNI	TS FOR THI	S REACH					
OTE: The CIs and F	RCI should be rounded to 2 decimal places. Th	ne CR should be round	ed to a whole number.				THE REACH	CONDITION IN	IDEX (RCI) >>	1.1		
							RC	I= (Sum of all C	l's)/5			
							COMPENSAT	ION REQUIRE	MENT (CR) >>	32		
							CR = RC	XLFXIF				









Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor			
	VDOT		Fairfax	R3	0207008	8/20/18	WOUS10J					
	ALTERATION: Stream crossin rictions, livestock	igs, riprap, concre			ghtening of chann	el, channelization	n, embankments,	NOTES>> alteration/straightening has				
	Negligible	Conditional Category         not occurred on this stream           Negligible         Minor         Moderate         Severe										
Channel Alteration	Channelization, dredging, alteration, or hardening absent. Stream has an unaltered pattern or has naturalized.	Less than 20% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	the channel alterations listed in the parameter guidelines.	40 - 60% of reach is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	by any of the chan in the parameter g 80% of banks sh riprap, o	of reach is disrupted nel alterations listed juidelines AND/OR nored with gabion, r cement.					
SCORE	1.5	1.3	1.1	0.9	0.7	0	.5			1.		
	REACH (	CONDITION I	NDEX and S	TREAM CON	IDITION UNI	TS FOR THI	S REACH					
OTE: The CIs and R	CI should be rounded to 2 decimal places. Th	ne CR should be round	ed to a whole number.				THE REACH	CONDITION IN	IDEX (RCI) >>	1.		
	RCI= (Sum of all CI's)/5								l's)/5			
							COMPENSA	ION REQUIRE	MENT (CR) >>	(		





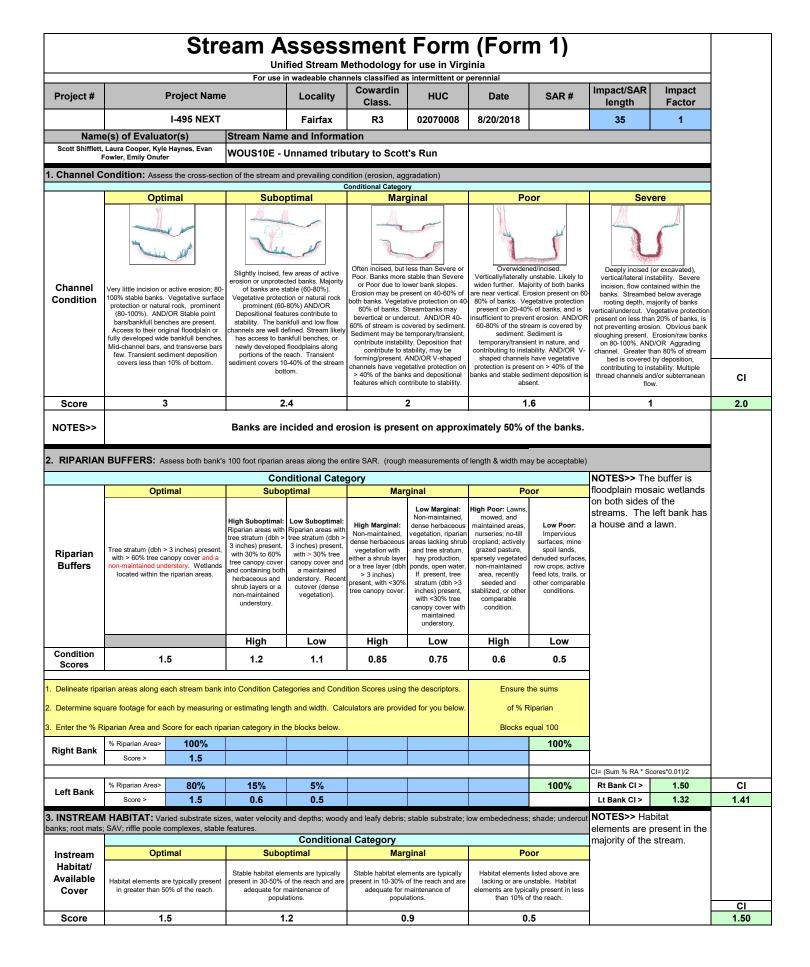
Project #				For us	e in ephemeral s	treams					
		Project Name	)	Locality	Cowardin Class.	HUC	Date	SAR #	Impact/SAR length	Impact Factor	
		I-495 NEXT		Fairfax	EPH	02070008	8/20/2018		24	1	
Nam	e(s) of Evaluat	or(s)	Stream Name	and Informa	tion						
	, Laura Cooper, Kyle Fowler, Emily Onufe	r	WOUS10G -					_	_	_	
RIPARIA	N BUFFERS: As	ssess both bank's				measurements of	f length & width ma	ay be acceptable)	NOTE:		
	Opti		Con	ditional Cate		ginal		or	NOTES>> The floodplain mos		
Riparian Buffers Condition Scores	Tree stratum (dbh > with > 60% tree car non-maintained und area	3 inches) present, nopy cover and an lerstory. Wetlands as.	High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. High 1.2	Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with >30% tree canopy cover and understory. Recent cutover (dense vegetation). Low 1.1	High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. High 0.85	Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh >3 inches) present, with -30% tree canopy cover with maintained understory. Low 0.75	High Poor: Lawns, mowed, and maintained areas, nurseries; no-till	Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions.	on both sides of the streams.		
Determine sc	arian areas along ea uare footage for ea Riparian Area and S % Riparian Area> Score >	ch by measuring	or estimating leng	th and width. Calo			of % F	he sums liparian qual 100 <b>100%</b>	-		
	00010	1.0							CI= (Sum % RA * So	ores*0.01)/2	
	% Riparian Area>	100%						100%	Rt Bank CI >	1.50	
Left Bank	Score >	1.5							Lt Bank CI >	1.50	
		REACH		NDEX and S	TREAM CON		TS FOR THE	S REACH			
TE: The Cle and	RCI should be rounded to								CONDITION IND		
The dis and	tor anound be rounded to	z uociniai piaces. II	ne on should be round	sa to a whole nulliber.					CI= (Riparian CI)	<u> </u>	











Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor	
	VDOT		Fairfax	R3	0207008	8/20/18	WOUS10E			
	LALTERATION: Stream crossin rictions, livestock	igs, riprap, concret	e, gabions, or cor	ocrete blocks, strai	ghtening of chann	el, channelization	, embankments,	NOTES>> alteration/stra	aightening has	
				al Category					a small section	
	Negligible	Mir	lor	40 - 60% of reach	erate 60 - 80% of reach	Sev	/ere	of this stream	1	
Channel Alteration	Channelization, dredging, alteration, or hardening absent. Stream has an unaltered pattern or has naturalized.	Less than 20% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	the channel	is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.		by any of the chan in the parameter g 80% of banks sh riprap, o	of reach is disrupted nel alterations listed juidelines AND/OR ored with gabion, r cement.			
SCORE	1.5	1.3	1.1	0.9	0.7	0	.5			1.30
	REACH (	CONDITION I	NDEX and S	TREAM CON	IDITION UNI	TS FOR THI	S REACH			
OTE: The CIs and F	RCI should be rounded to 2 decimal places. Th	ne CR should be round	ed to a whole number.				THE REACH	CONDITION IN	IDEX (RCI) >>	1.24
							RC	I= (Sum of all C	l's)/5	
							COMPENSAT	TION REQUIRE	MENT (CR) >>	43
							CR = RC	IXLFXIF		



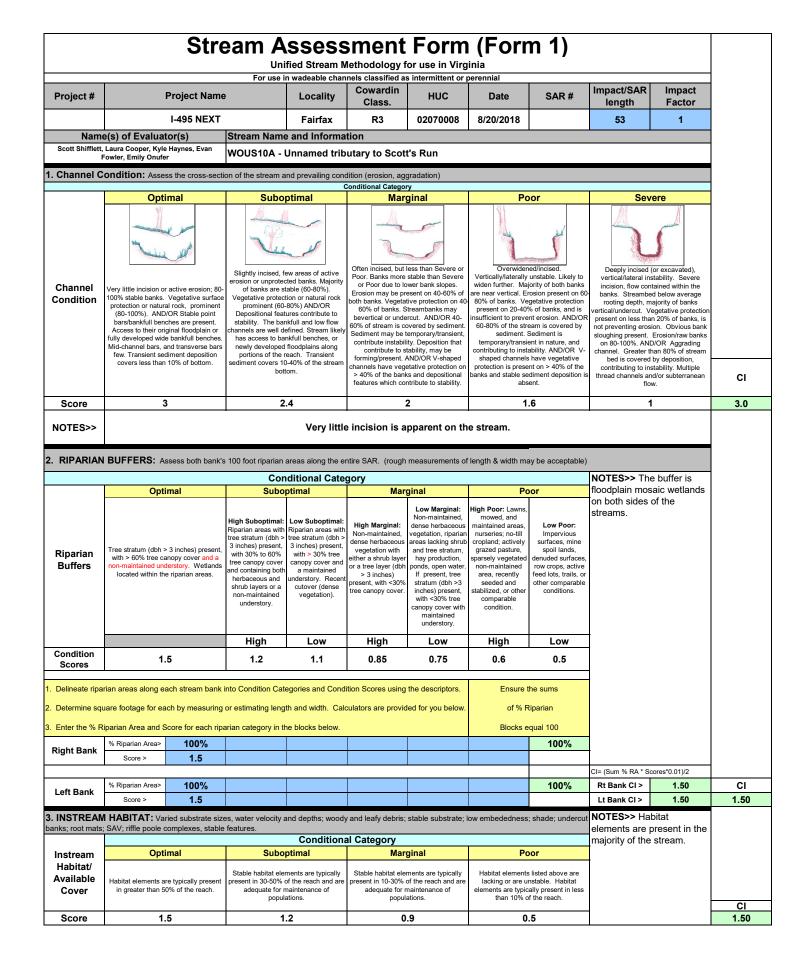


				For us	e in ephemeral s	treams					
Project #	I	Project Name	•	Locality	Cowardin Class.	HUC	Date	SAR #	Impact/SAR length	Impact Factor	
		I-495 NEXT		Fairfax	EPH	02070008	8/20/2018		56	1	
Nam	e(s) of Evaluat	tor(s)	Stream Name	and Informa	tion						
	, Laura Cooper, Kyle Fowler, Emily Onufe		WOUS10D - U	Unnamed trib	utary to Scott	's Run					
. RIPARIAN	BUFFERS: As	ssess both bank's	s 100 foot riparian a	areas along the e	ntire SAR. (rough	measurements of	length & width ma	ay be acceptable)			
			Con	ditional Cate	gory				NOTES>> The	buffer is	
	Opti	imal	Subo	ptimal	Marg	ginal	Po	or	floodplain mos		
Riparian Buffers	Tree stratum (dbh > with > 60% tree ca non-maintained unc are:	nopy cover and an derstory. Wetlands	tree stratum (dbb > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.	Riparian areas with tree stratum (dbh s 3 inches) present, with >30% tree canopy cover and a maintained understory. Recent cutover (dense vegetation).	Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover.	Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh >3 inches) present, with <30% tree canopy cover with maintained understory.	nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition.	Low Poor: Impervious spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions.	on both sides of streams. Ther houses and lay the right buffer	e are some vns within	
<b>A</b> 11/1			High	Low	High	Low	High	Low	-		
Condition Scores	1.	5	1.2	1.1	0.85	0.75	0.6	0.5			
. Determine sq	arian areas along ea uare footage for ea Riparian Area and S	ich by measuring	or estimating lengt	th and width. Calo	Ŭ		of % F	the sums Riparian Iqual 100			
	% Riparian Area>	90%	10%					100%			
Right Bank	Score >	1.5	0.6						1		
									CI= (Sum % RA * Sc	ores*0.01)/2	
Left Bank	% Riparian Area>	100%						100%	Rt Bank CI >	1.41	
Len Bank	Score >	1.5							Lt Bank CI >	1.50	
	•	REACH	CONDITION I	NDEX and S	TREAM COM		TS FOR THIS	S REACH			
					-			-			
OTE: The Cip and S	Clebould be sounded to	o 2 decimal places. Th	to CR should be round	d to a whole number-					ACH CONDITION INDEX (RCI) >>		
<i>IOTE:</i> The CIs and F	RCI should be rounded to	o 2 decimal places. Th	he CR should be rounde	ed to a whole number.						, ,	
OTE: The CIs and F	RCI should be rounded to	o 2 decimal places. Th	he CR should be rounde	ed to a whole number.				R	CI= (Riparian CI)	/2	_



				For us	e in ephemeral s	treams					
Project #	F	Project Name		Locality	Cowardin Class.	HUC	Date	SAR #	Impact/SAR length	Impact Factor	
		I-495 NEXT		Fairfax	EPH	02070008	8/20/2018		47	1	
Nam	e(s) of Evaluat	or(s)	Stream Name	and Informa	tion		•				
	, Laura Cooper, Kyle Fowler, Emily Onufer		WOUS10B - I	Unnamed trib	utary to Scot	's Run					
RIPARIA	N BUFFERS: As	sess both bank's	a 100 foot riparian :	areas along the e	ntire SAR. (rough	measurements of	length & width ma	ay be acceptable)			
				ditional Cate				• • • •	NOTES>> Th	e buffer is	
	Opti	mal	Subor		Mar	ginal	Poor floodplain mosaic wetland				
Riparian Buffers Condition Scores	Tree stratum (dbh > with > 60% tree can non-maintained und area	opy cover and an erstory. Wetlands as.		Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with >30% tree canopy cover and a maintained understory. Recent cutover (dense vegetation).	High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dhh > 3 inches) present, with <30% tree canopy cover. High 0.85	Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh >3 inches) present, with <30% tree canopy cover with maintained understory. Low 0.75	High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. High 0.6	Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. Low 0.5	streams.		
Scores	arian areas along ea	ich stream bank	into Condition Cate	egories and Cond	ition Scores using	the descriptors.	Ensure	0.5 the sums Riparian			
Enter the % F	Riparian Area and S	core for each ripa	arian category in th	ne blocks below.			Blocks e	equal 100			
Right Bank	% Riparian Area>	100%						100%			
ugin Buin	Score >	1.5									
	1								CI= (Sum % RA * Se	,	
	% Riparian Area>	100%						100%	Rt Bank CI >	1.50	
Left Bank	Score >	1.5							Lt Bank CI >	1.50	
Left Bank			CONDITION	NDEX and S	TREAM CON	<b>IDITION UNI</b>	TS FOR THI	S REACH			
Left Bank	<u> </u>	REACH									
	RCI should be rounded to							THE REACH	CONDITION INI	DEX (RCI) >>	
	RCI should be rounded to								CONDITION INI CI= (Riparian CI)	· /	
	RCI should be rounded to							R		)/2	





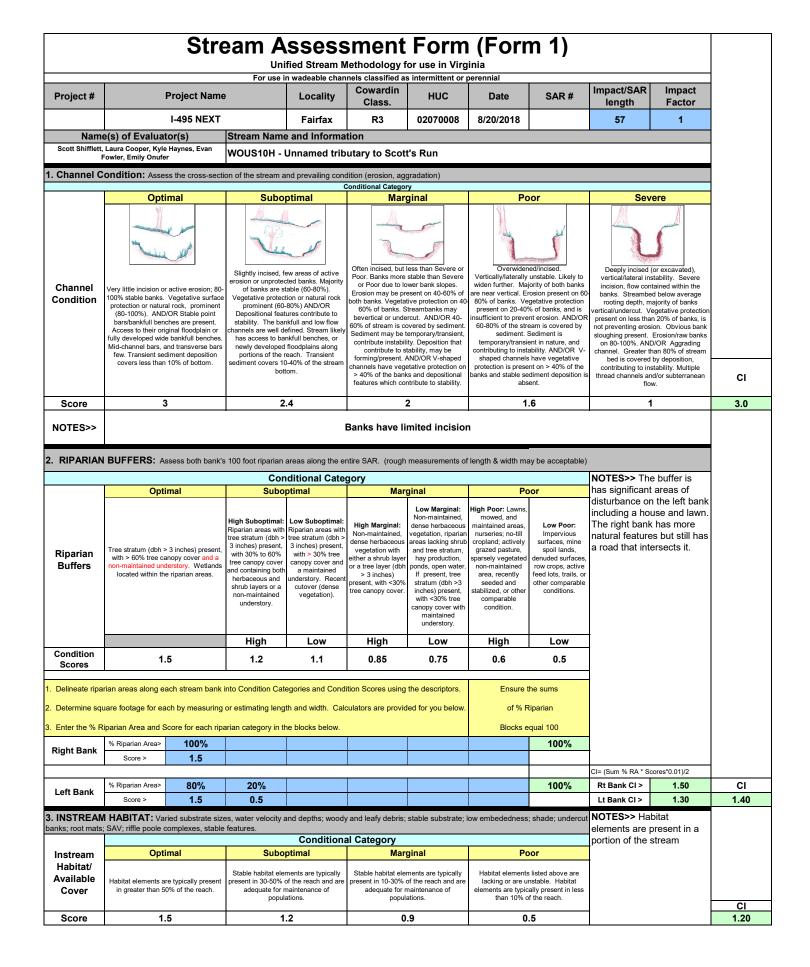
Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor	
	VDOT		Fairfax	R3	0207008	8/20/18	WOUS10A			
	ALTERATION: Stream crossin rictions, livestock	gs, riprap, concret	te, gabions, or concrete blocks, straightening of channel, channelization, embankments, alteration/straightening has							
	Negligible	Mir		al Category	erate	Ser	vere	occurred on a of this stream	a small section	
Channel Alteration	Channelization, dredging, alteration, or hardening absent. Stream has an unaltered pattern or has naturalized.	Less than 20% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	the channel alterations listed in the parameter guidelines.	of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	60 - 60% of reach is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	by any of the chan in the parameter g 80% of banks sh riprap, o	of reach is disrupted nel alterations listed juidelines AND/OR nored with gabion, r cement.			
SCORE	1.5	1.3	1.1	0.9	0.7	0	.5			1.3
	REACH (	CONDITION I	NDEX and S	TREAM CON	NDITION UNI	TS FOR THI	S REACH			
OTE: The CIs and F	RCI should be rounded to 2 decimal places. Th	e CR should be rounde	ed to a whole number.				THE REACH	CONDITION IN	IDEX (RCI) >>	1.4
						h	RC	RCI= (Sum of all CI's)/5		
							COMPENSA	ION REQUIRE	MENT (CR) >>	77
							CR = RC	X LF X IF		





Project #					e in ephemeral st	liounio					
		Project Name	}	Locality	Cowardin Class.	HUC	Date	SAR #	Impact/SAR length	Impact Factor	
		I-495 NEXT		Fairfax	EPH	02070008	8/20/2018		58	1	
Nam	e(s) of Evaluat	tor(s)	Stream Name	and Informa	tion	-					
	, Laura Cooper, Kyle Fowler, Emily Onufe		WOUS10K - L	Jnnamed trib	utary to Scott	t's Run					
. RIPARIAN	BUFFERS: As	ssess both bank's	s 100 foot riparian a	areas along the er	ntire SAR. (rough	measurements of	f length & width ma	ay be acceptable)			
			Con	ditional Cate	gory				NOTES>> The		
	Opti	mal	Subor	otimal	Marg	ginal	Po	oor	floodplain mos on both sides o		
Riparian Buffers Condition	Tree stratum (dbh > with > 60% tree can non-maintained und area	nopy cover and an ierstory. Wetlands as.	Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. High	Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with >30% tree canopy cover and a maintained understory. Recent cutover (dense vegetation).	Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover.	Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh >3 inches) present, with <30% tree canopy cover with maintained understory.	cropland; actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition.	row crops, active feed lots, trails, or other comparable conditions.	streams. The left bank has I-495 which takes up a significant portion of the buffer		
Scores	1.	.5	1.2	1.1	0.85	0.75	0.6	0.5			
Determine sq	arian areas along ea uare footage for ea Riparian Area and S	ich by measuring	or estimating lengt	th and width. Calo	-		of % F	the sums Riparian equal 100			
Disché Daule	% Riparian Area>	100%						100%			
Right Bank	Score >	1.5									
	•								CI= (Sum % RA * Sc	ores*0.01)/2	
Left Bank	% Riparian Area>	25%	75%					100%	Rt Bank CI >	1.50	
Leit Bank	Score >	1.5	0.5						Lt Bank CI >	0.75	
		REACH	CONDITION I	NDEX and S			TS FOR THI	S REACH			
									CONDITION IND		
ATE. The Oliver 1	coi snoula pe rounded to	o ∠ decimal places. Ti	IN SNOULD BE FOUNDE	a to a whole number.					CONDITION IND	. ,	
TE: The CIs and F								D1	CI- (Dinarian CI)	10	
DTE: The CIs and F									CI= (Riparian CI)/ FION REQUIREM		

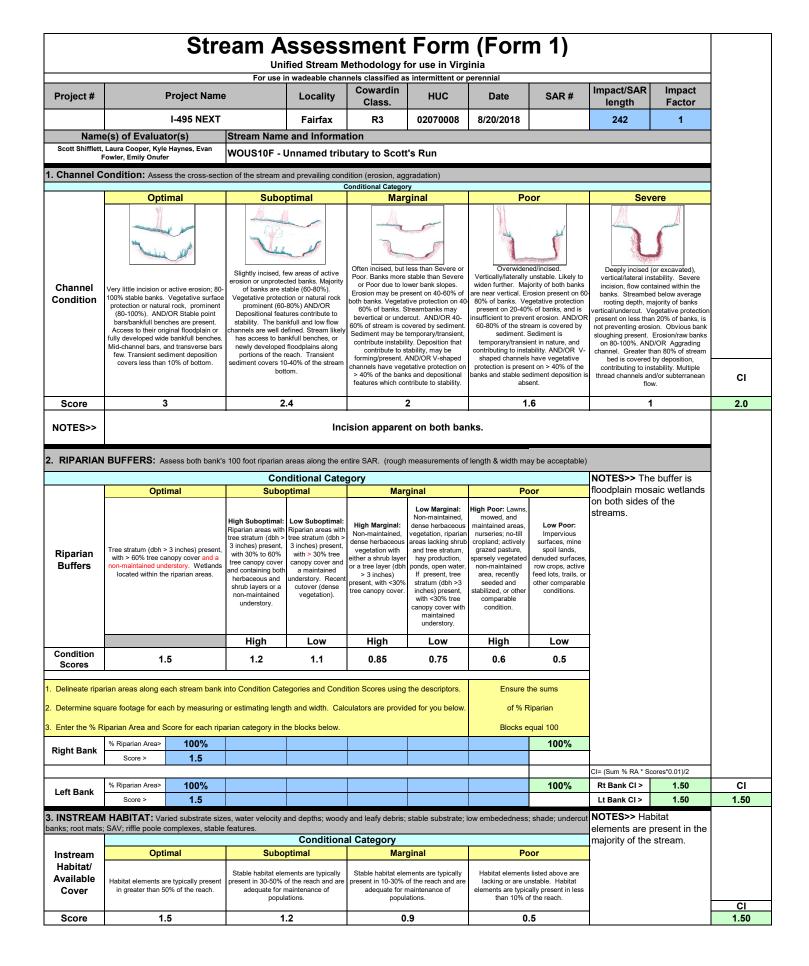




Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor				
	VDOT		Fairfax	R3	0207008	8/20/18	WOUS10H						
	L ALTERATION: Stream crossin trictions, livestock	L ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, alteration/straightening has occurred on a small sectior occurred on a small section.											
	Negligible	Mi	Conditiona		erate	Se	vere	occurred on a of this stream					
Channel Alteration	Channelization, dredging, alteration, or hardening absent. Stream has an unaltered pattern or has naturalized.	the channel	20-40% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.		60 - 60% of reach is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	by any of the chan in the parameter g 80% of banks sh	of reach is disrupted nel alterations listed juidelines AND/OR wored with gabion, r cement.						
SCORE	1.5	1.3	1.1	0.9	0.7	0	.5						
	REACH (		NDEX and S	TREAM CON	NDITION UNI	TS FOR THI	S REACH						
DTE: The CIs and	RCI should be rounded to 2 decimal places. Th	e CR should be round	ed to a whole number.				THE REACH	CONDITION IN	IDEX (RCI) >>				
							RC	= (Sum of all C	l's)/5				
									MENT (CR) >>				
							CR = RCI	X LF X IF					



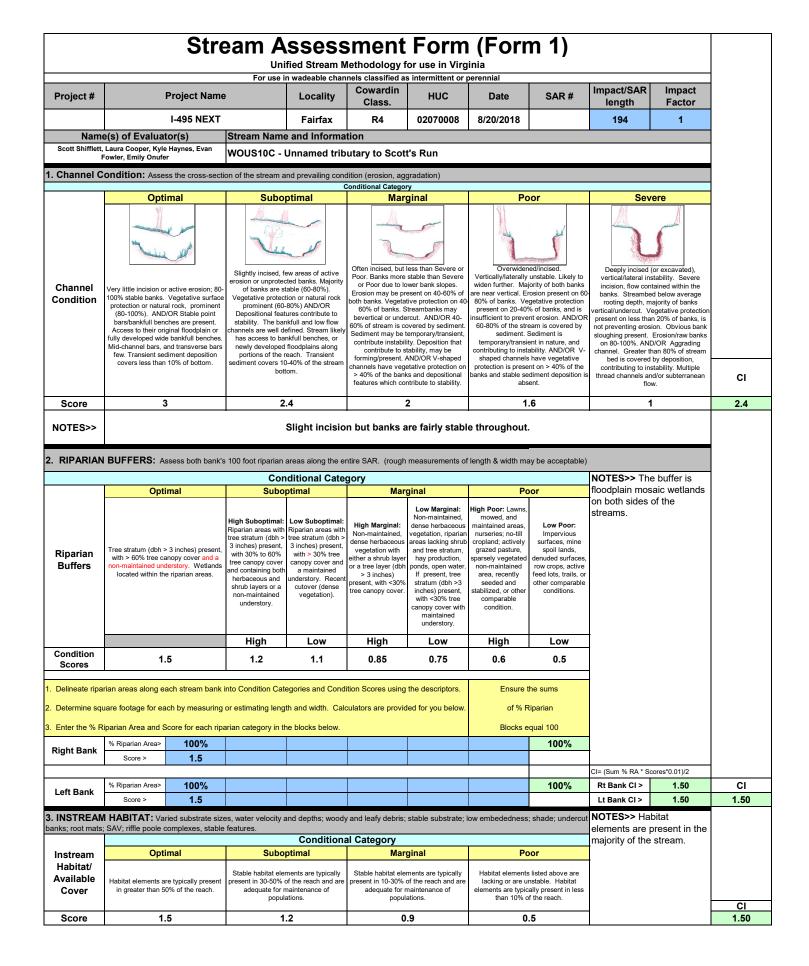




Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor	
	VDOT		Fairfax	R3	0207008	8/20/18	WOUS10F			
	ALTERATION: Stream crossin rictions, livestock	igs, riprap, concre			ghtening of chann	el, channelization	, embankments,	NOTES>> alteration/stra	aightening has	
			Conditiona			-		1	a small section	
	Negligible	Mir	nor	40 - 60% of reach	erate 60 - 80% of reach	Sev	/ere	of this stream	1	
Channel Alteration	Channelization, dredging, alteration, or hardening absent. Stream has an unaltered pattern or has naturalized.	Less than 20% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	the channel	is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.		by any of the chang in the parameter g	of reach is disrupted nel alterations listed juidelines AND/OR ored with gabion, r cement.			
SCORE	1.5	1.3	1.1	0.9	0.7	0	.5			1.3
	REACH (	CONDITION I	NDEX and S		IDITION UNI	TS FOR THI	S REACH			
OTE: The CIs and F	RCI should be rounded to 2 decimal places. Th	ne CR should be round	ed to a whole number.				THE REACH	CONDITION IN	IDEX (RCI) >>	1.2
							RC	I= (Sum of all C	l's)/5	
							COMPENSAT	ION REQUIRE	MENT (CR) >>	305
							CR = RC	X LF X IF		

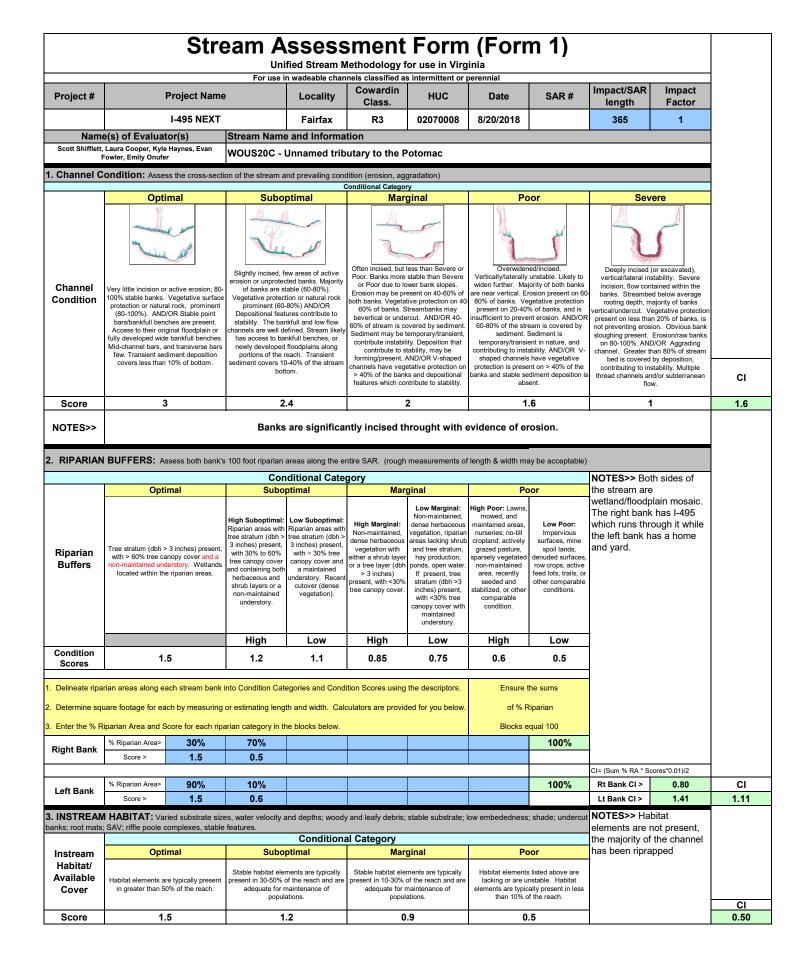






Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor	
	VDOT		Fairfax	R4	0207008	8/20/18	WOUS10C			
	ALTERATION: Stream crossin rictions, livestock	gs, riprap, concret			ghtening of chanr	el, channelization	,,		aightening has	
			Conditiona					1	a small section	
	Negligible	gible Minor Moderate Severe of this stream								
Channel Alteration	Channelization, dredging, alteration, or hardening absent. Stream has an unaltered pattern or has naturalized.	Less than 20% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	20-40% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	40 - 00% of reach is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	by any of the chan in the parameter of 80% of banks sh	of reach is disrupted nel alterations listed uidelines AND/OR ored with gabion, r cement.			
SCORE	1.5	1.3	1.1	0.9	0.7	0	.5			1.
	REACH (	CONDITION I	NDEX and S	TREAM CON	NDITION UNI	TS FOR THI	S REACH			
OTE: The CIs and F	CI should be rounded to 2 decimal places. Th	e CR should be round	ed to a whole number.				THE REACH	CONDITION IN	IDEX (RCI) >>	1.
							RCI	I= (Sum of all C	l's)/5	
							COMPENSAT	ION REQUIRE	MENT (CR) >>	2
							CR = RCI	XLFXIF		





	St	tream In	npact A	ssessm	ent For	m Page	2		
Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor
	VDOT		Fairfax	R4	0207008	8/20/18	WOUS20C		
4. CHANNEL spoil piles, constr	ALTERATION: Stream crossin ictions, livestock	ngs, riprap, concre	te, gabions, or cor	ncrete blocks, stra	ightening of chanr	nel, channelizatior	n, embankments,	NOTES>> The channel h	
			Condition	al Category				altered throug	gh
	Negligible	Mi	nor	Mod 40 - 60% of reach	erate 60 - 80% of reach	Se	vere	straightening	and riprap
Channel Alteration	Channelization, dredging, alteration, or hardening absent. Stream has an unaltered pattern or has naturalized.	the channel	ream reach is sted by any of the parameter tions listed in stream has been parameter the parameter parameter the parameter parameter the parameter the parameter parameter the parameter parameter the parameter the parameter the parameter channelized, parameter the parameter the parameter the parameter the parameter channelized, parameter the parameter the parameter t						
SCORE	1.5	1.3	1.1	0.9	0.7	0	.5		
	REACH (		INDEX and S	TREAM CO	NDITION UNI	ITS FOR THI	S REACH		
NOTE: The CIs and R	CI should be rounded to 2 decimal places. Th	ne CR should be round	ed to a whole number.				THE REACH	CONDITION IN	DEX (RCI) >>
							RC	I= (Sum of all C	l's)/5
							COMPENSA	TION REQUIRE	MENT (CR) >>
							CR = RC	I X LF X IF	
NSERT PHO	TOS								



	F		For use in ephemeral streams           Name         Locality         Cowardin Class.         HUC         Date         SAR #         Impact/SAR length         Impact									
		roject Name	>	Locality		HUC	Date	SAR #				
		I-495 NEXT		Fairfax	EPH	02070008	8/20/2018		34	1		
	e(s) of Evaluate	or(s)	Stream Name	and Informa	tion							
	, Laura Cooper, Kyle Fowler, Emily Onufer	Haynes, Evan	WOUS22 - Ur	nnamed tribu	tary to the Po	tomac						
. RIPARIAN	N BUFFERS: As	sess both bank's	s 100 foot riparian	areas along the e	ntire SAR. (rough	measurements of	f length & width ma	ay be acceptable)				
			Con	ditional Cate	gory				NOTES>> Bot	h sides of		
	Optin	nal	Subo		, ,	ginal	Po	oor	the stream are			
Riparian Buffers	Tree stratum (dbh > with > 60% tree can non-maintained unde area	opy cover and an erstory. Wetlands	High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.	Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with >30% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). Low	High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover.	Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water stratum (dbh >3 inches) present, with <30% tree canopy over with maintained understory. Low		Low Poor: Impervious spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions.	wetland/floodpl			
Condition Scores	1.5	5	1.2	1.1	0.85	0.75	0.6	0.5				
Determine sq	arian areas along ea juare footage for eac Riparian Area and Sc	h by measuring	or estimating leng	th and width. Calo			of % F	the sums Riparian equal 100				
Right Bank	% Riparian Area>	100%						100%				
Right Dalik	Score >	1.5							I			
									CI= (Sum % RA * Sco	ores*0.01)/2		
Left Bank	% Riparian Area>	100%						100%	Rt Bank CI >	1.50		
	Score >	1.5							Lt Bank Cl >	1.50		
		REACH	CONDITION I	NDEX and S	TREAM CO	NDITION UNI	TS FOR THI	S REACH				
OTE: The Cls and F	RCI should be rounded to								CONDITION IND	EX (RCI) >>		
							<u> </u>		CI= (Riparian CI)/	<u> </u>		
								COMPENSAT				

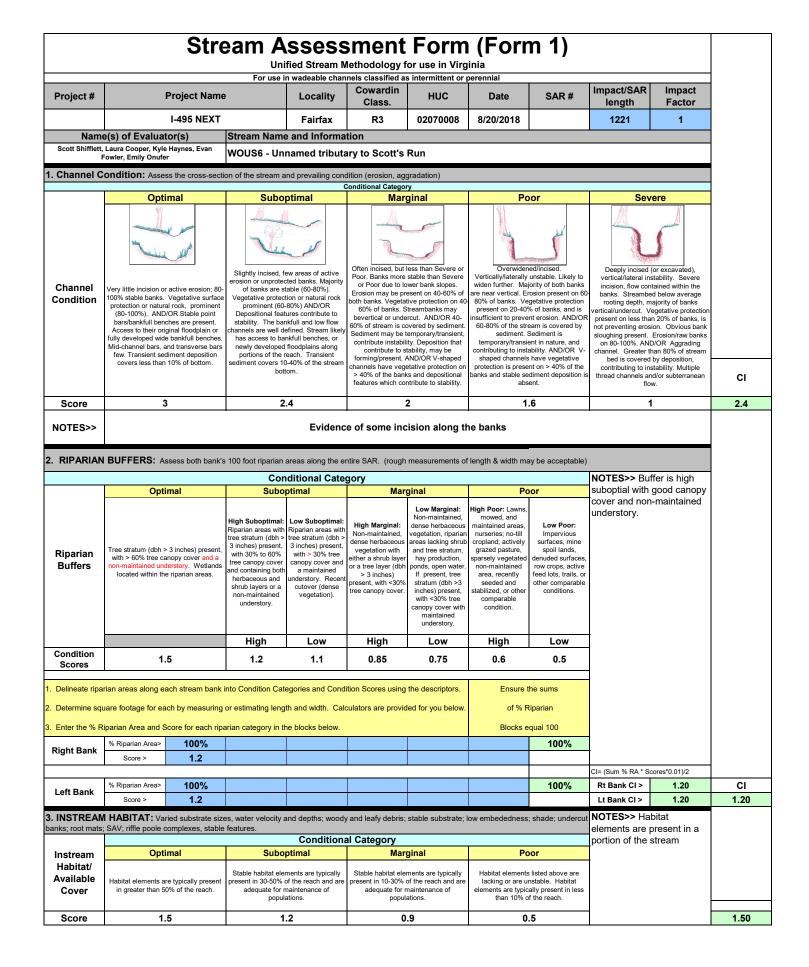




Scott Shifflet		roject Name									
Scott Shifflet		•	)	Locality	Cowardin Class.	HUC	Date	SAR #	Impact/SAR length	Impact Factor	
Scott Shifflet		I-495 NEXT		Fairfax	EPH	02070008	8/20/2018		50	1	
	e(s) of Evaluate	or(s)	Stream Name	and Informa	tion		•				
	, Laura Cooper, Kyle I Fowler, Emily Onufer	Haynes, Evan	WOUS21 - U	nnamed tribu	tary to the Po	tomac					
. RIPARIAI	N BUFFERS: Ass	sess both bank's	s 100 foot riparian	areas along the e	ntire SAR. (rough	measurements of	f length & width ma	ay be acceptable)			
			Con	ditional Cate	aory				NOTES>> Bot	h sides of	
	Optin	nal	1	ptimal		ginal	Po	oor	the stream are		
Riparian Buffers Condition Scores	Tree stratum (dbh > with > 60% tree can non-maintained unde areas 1.5	ppy cover and an irstory. Wetlands s.	High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. High 1.2 into Condition Cat	Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with >30% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). Low 1.1 egories and Cond	High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. High 0.85	Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh >3 inches) present, with <30% tree canopy cover with maintained understory. Low 0.75 the descriptors.	High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. High 0.6	Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions.			
				-							
. Determine so	uare footage for eac	h by measuring	or estimating leng	th and width. Cal	culators are provid	ed for you below.	Of % F	Riparian			
. Enter the % I	Riparian Area and So	ore for each rip	arian category in th	ne blocks below.			Blocks e	equal 100			
Right Bank	% Riparian Area>	100%						100%			
	Score >	1.5									
	1								CI= (Sum % RA * Sc	,	
Left Bank	% Riparian Area>	100%						100%	Rt Bank CI >	1.50	
	Score >	1.5							Lt Bank CI >	1.50	
		REACH	CONDITION	NDEX and S	TREAM CON	NDITION UNI	TS FOR THE	S REACH			
	RCI should be rounded to	2 decimal places. T	he CR should be round	ed to a whole number.				THE REACH	CONDITION IND	EX (RCI) >>	
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OTE: The CIS and							r		CI= (Riparian CI)	12	

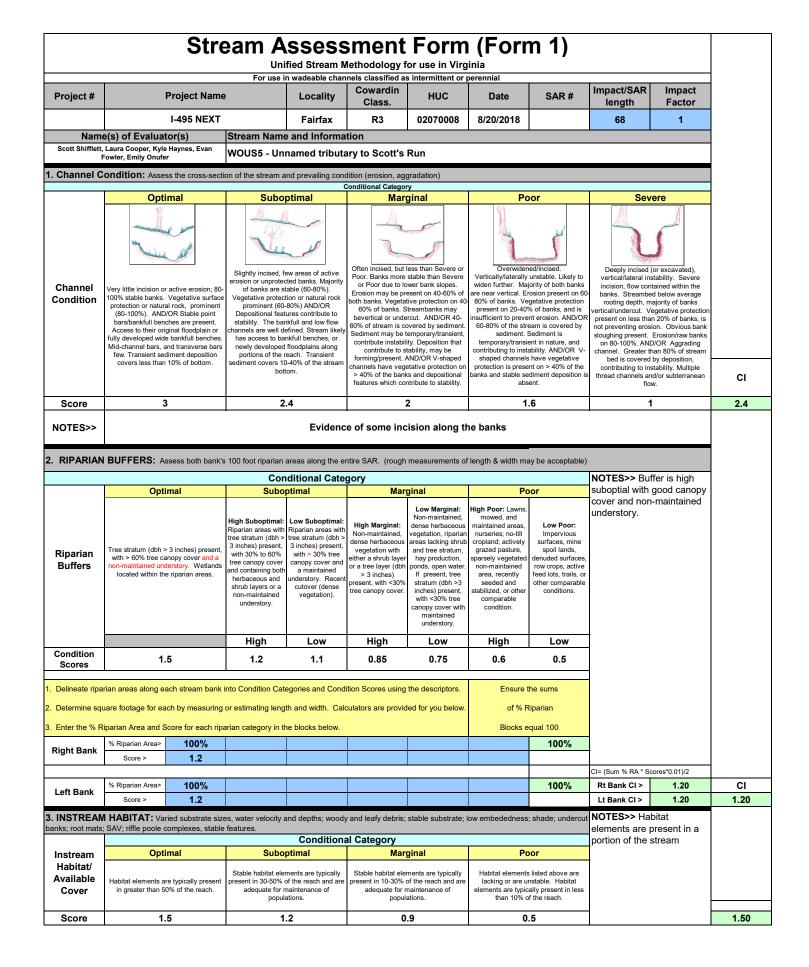






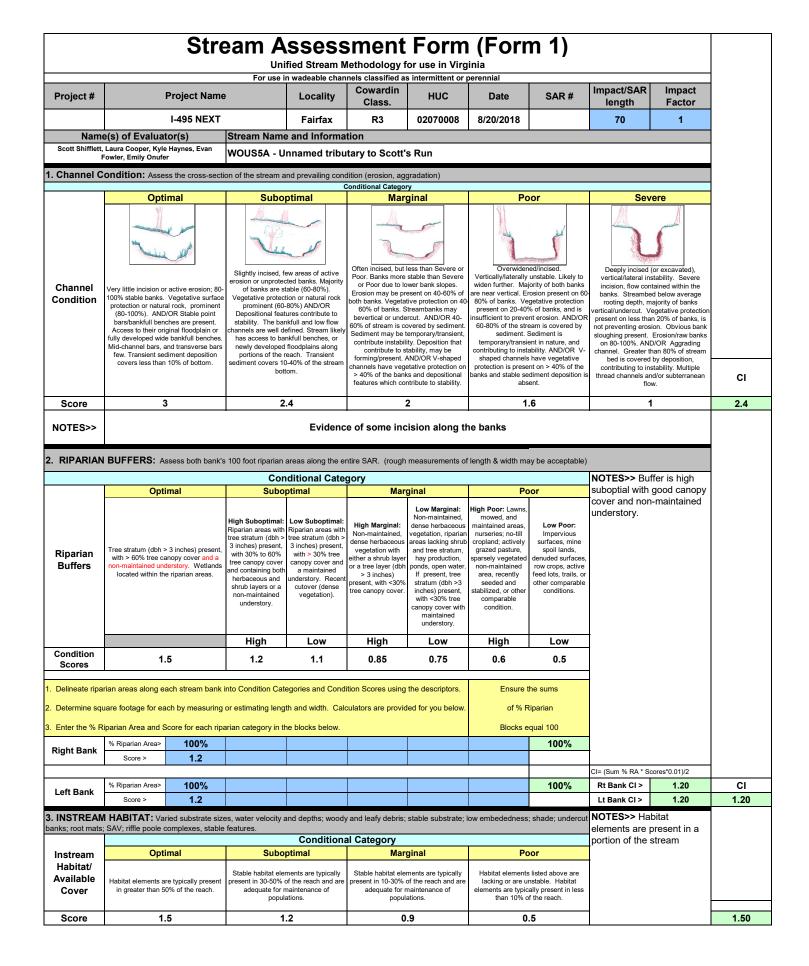
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	VDOT		Fairfax	R3	0207008	8/20/18	WOUS6		
	ALTERATION: Stream crossin rictions, livestock	ngs, riprap, concret	te, gabions, or cor	ncrete blocks, stra	ightening of chanı	n, embankments,	NOTES>> alteration/straightening has		
			Conditiona	al Category				occurred on a	a significant
	Negligible	Mir	nor		erate	Se	vere	portion of the	stream
Channel Alteration	hardening absent. Stream has an unaltered pattern or has naturalized.	Less than 20% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	the channel alterations listed in the parameter guidelines.	is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	60 - 80% of reach is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	Greater than 80% by any of the chan in the parameter 80% of banks st riprap, c	of reach is disrupted nel alterations listed juidelines AND/OR rored with gabion, or cement.		
SCORE	1.5	1.3	1.1	0.9	0.7	C	.5		
	REACH (	CONDITION I	NDEX and S	STREAM CO	NDITION UN	ITS FOR THI	S REACH		
OTE: The CIs and F	CI should be rounded to 2 decimal places. Th	ne CR should be round	ed to a whole number.				THE REACH	CONDITION IN	IDEX (RCI) >>
							RC	I= (Sum of all C	l's)/5
							COMPENSAT	TION REQUIRE	MENT (CR) >>
							CR = RC	IXLFXIF	





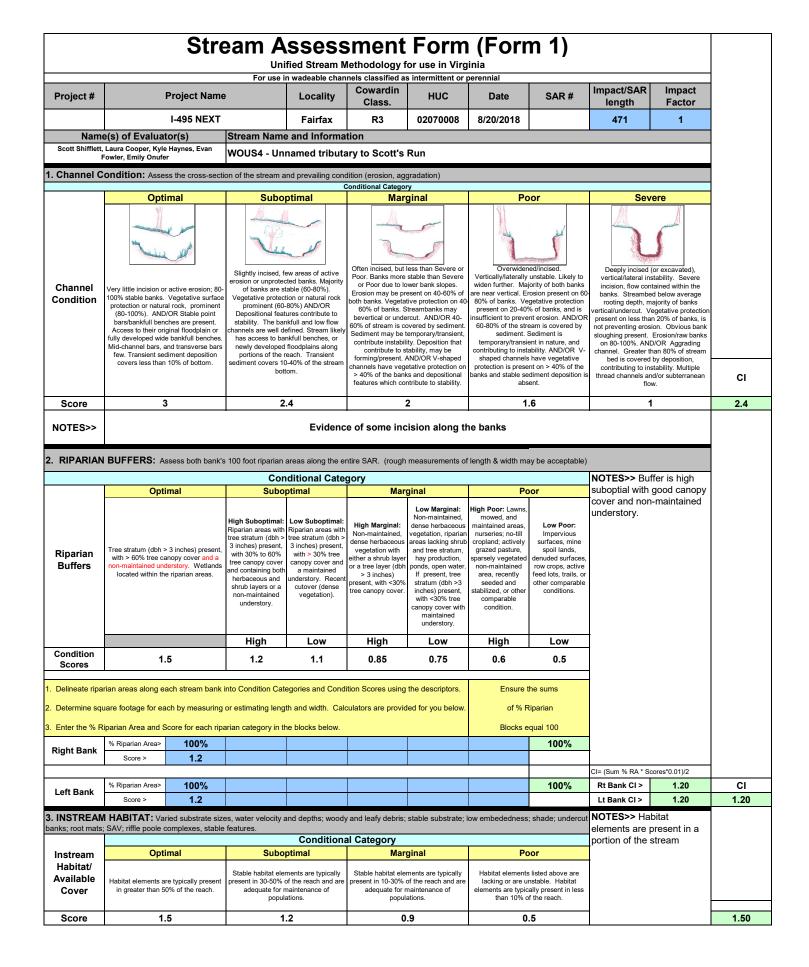
	St	tream Ir	npact A	ssessm	ent For	m Page	e 2		
Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor
	VDOT		Fairfax	R3	0207008	8/20/18	WOUS5		
	ALTERATION: Stream crossin ictions, livestock	ngs, riprap, concre	te, gabions, or cor	ncrete blocks, stra	ightening of chanr	nel, channelizatior	n, embankments,	NOTES>> alteration/stra	ightening has
			Condition	al Category				occurred on a	• •
	Negligible	Mi	nor		erate	Se	vere	the stream	
Channel Alteration	hardening absent. Stream has an unaltered pattern or has naturalized.	Less than 20% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	the channel alterations listed in the parameter guidelines.	of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	60 - 80% of reach is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	Greater than 80% by any of the char in the parameter 80% of banks sl riprap, c	of reach is disrupted anel alterations listed guidelines AND/OR hored with gabion, or cement.		
SCORE	1.5	1.3	1.1	0.9	0.7	(	).5		
	REACH	CONDITION	INDEX and S	TREAM CO	NDITION UNI	ITS FOR TH	S REACH		
IOTE: The CIs and R	CI should be rounded to 2 decimal places. Th	ne CR should be round	ed to a whole number.				THE REACH	CONDITION IN	DEX (RCI) >>
							RC	I= (Sum of all C	l's)/5
							COMPENSAT	ION REQUIRE	MENT (CR) >>
							CR = RC	I X LF X IF	
NSERT PHO									





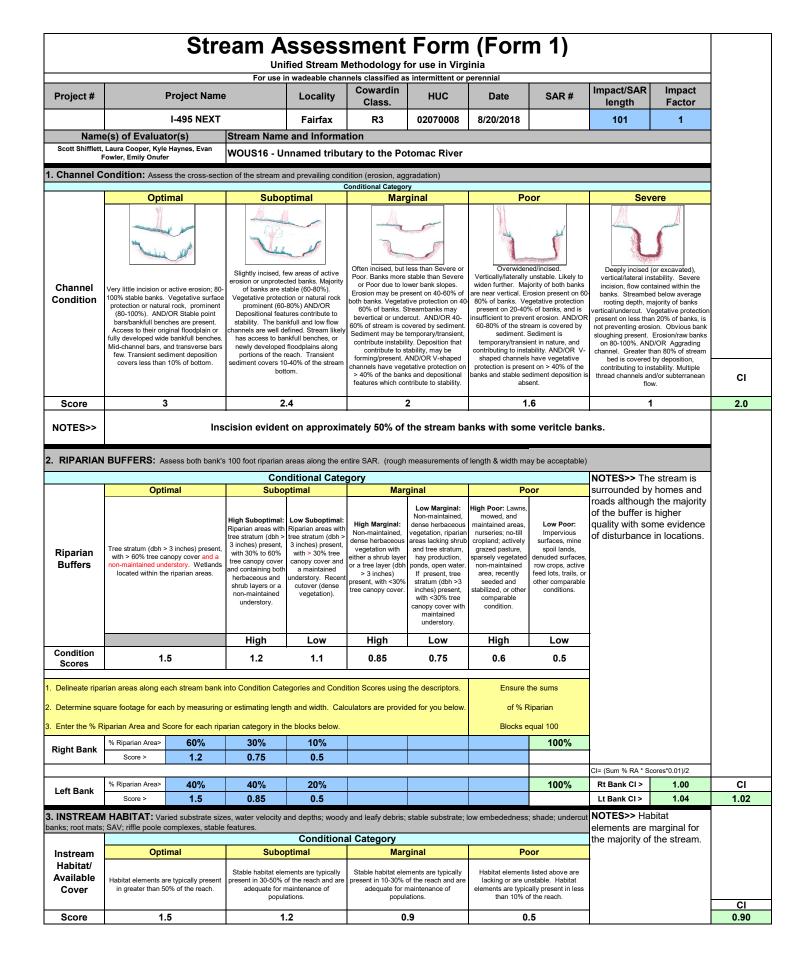
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Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor
	VDOT		Fairfax	R3	0207008	8/20/18	WOUS5A		
	ALTERATION: Stream crossin rictions, livestock	igs, riprap, concret	te, gabions, or cor	ncrete blocks, stra	ightening of chanr	nel, channelizatio	n, embankments,	NOTES>> alteration/stra	ightening has
			Condition	al Category				occurred on a	• •
	Negligible	Mir	nor		erate	Se	vere	the stream	
Channel Alteration	Channelization, dredging, alteration, or hardening absent. Stream has an unaltered pattern or has naturalized.	Less than 20% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	the channel	40 - 60% of reach is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	60 - 60% of reach is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	by any of the chai in the parameter 80% of banks s riprap,	of reach is disrupted nnel alterations listed guidelines AND/OR hored with gabion, or cement.		
SCORE	1.5	1.3	1.1	0.9	0.7	(	0.5		
	REACH (	CONDITION I	NDEX and S	TREAM CO	NDITION UNI	<b>ITS FOR TH</b>	IS REACH		
OTE: The Cls and R	CI should be rounded to 2 decimal places. Th	e CR should be round	ed to a whole number.				THE REACH	CONDITION IN	DEX (RCI) >>
						<u>.</u>	RC	I= (Sum of all C	l's)/5
							COMPENSA	TION REQUIRE	MENT (CR) >>
						-	CR = RC	I X LF X IF	





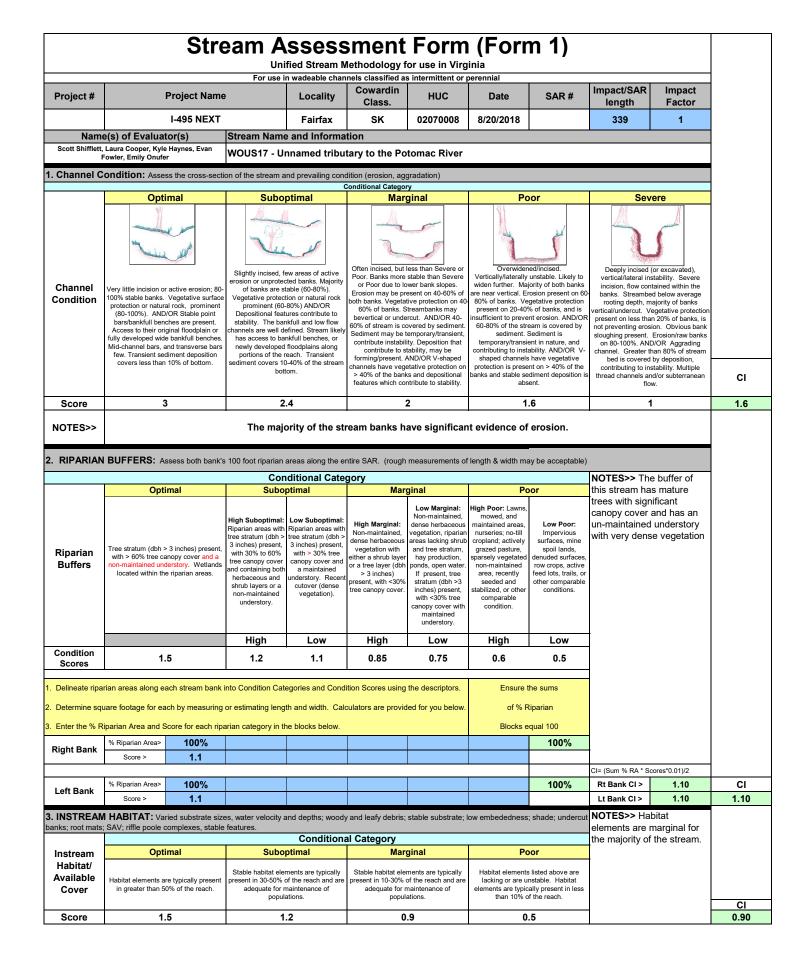
	S	tream Ir	npact A	ssessm	ent For	m Page	2		
Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor
	VDOT		Fairfax	R3	0207008	8/20/18	WOUS4		
	ALTERATION: Stream crossin rictions, livestock	ngs, riprap, concre	-		ightening of chanr	nel, channelization	i, embankments,		ightening has
	No. off official			al Category				occurred on a	
	Negligible	Mi	nor		erate 60 - 80% of reach	Se	vere	portion of the	stream
Channel Alteration	Channelization, dredging, alteration, or hardening absent. Stream has an unaltered pattern or has naturalized.	Less than 20% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	the channel	is disrupted by any of the channel	is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has ben channelized, normal stable stream meander pattern has not recovered.	Greater than 80% of by any of the chan in the parameter of 80% of banks sh	of reach is disrupted nel alterations listed juidelines AND/OR lored with gabion, r cement.		
SCORE	1.5	1.3	1.1	0.9	0.7	0	.5		
	REACH (	CONDITION	INDEX and S	TREAM CO	NDITION UNI	ITS FOR THI	S REACH		
DTE: The CIs and R	CI should be rounded to 2 decimal places. Th	he CR should be round	ed to a whole number.				THE REACH	CONDITION IN	DEX (RCI) >>
							RC	I= (Sum of all C	l's)/5
							COMPENSA	TION REQUIRE	MENT (CR) >>
							CR = RC	I X LF X IF	
NSERT PHO	TOS:								





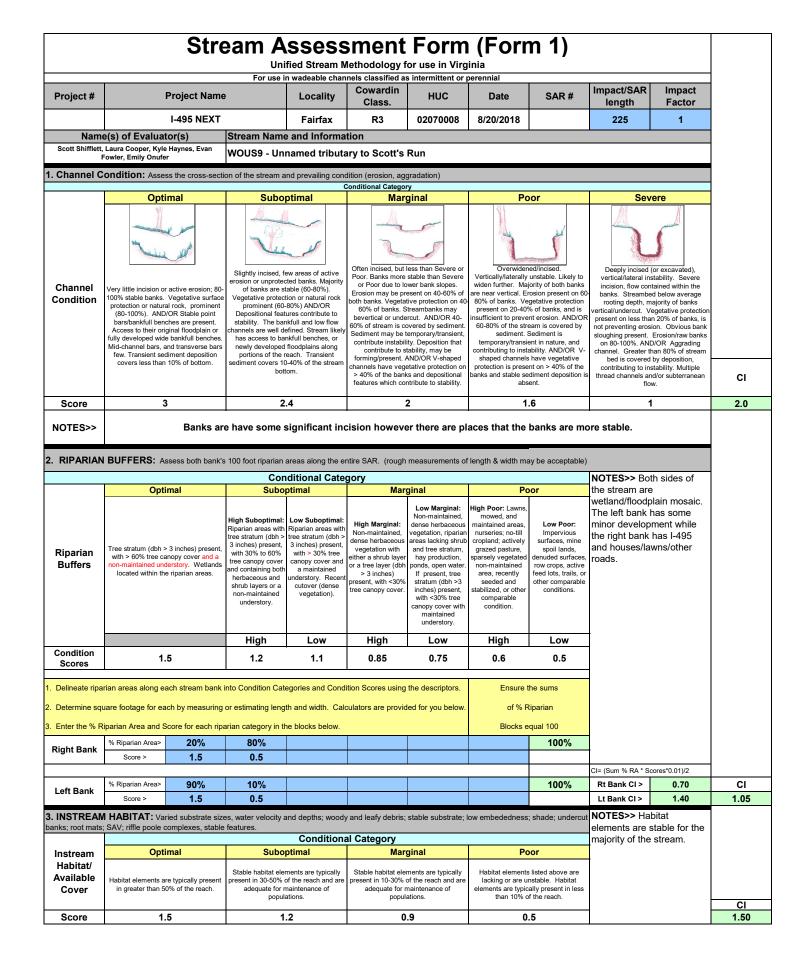
Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor
	VDOT		Fairfax	R3	0207008	8/20/18	WOUS16		
	ALTERATION: Stream crossin rictions, livestock	gs, riprap, concre			ightening of chanr	nel, channelization	, embankments,	NOTES>> It good portion	appears that a of the stream
				al Category		-		has been stra	aightened.
	Negligible	Mi	nor	Mode	erate 60 - 80% of reach	Sev	/ere	4	
Channel Alteration	hardening absent. Stream has an unaltered pattern or has naturalized.	Less than 20% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	20-40% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	by any of the chan in the parameter g 80% of banks sh riprap, o	r cement.		
SCORE	1.5	1.3	1.1	0.9	0.7	-	.5		
	REACH (	CONDITION I	NDEX and S	TREAM CON	NDITION UNI	TS FOR THE	S REACH		
TE: The CIs and F	RCI should be rounded to 2 decimal places. The	e CR should be round	ed to a whole number.				THE REACH	CONDITION IN	IDEX (RCI) >>
							RC	I= (Sum of all C	l's)/5
							COMPENSAT	ION REQUIRE	MENT (CR) >>
							CR = RC	IXLFXIF	





Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor	
	VDOT		Fairfax	R3	0207008	8/20/18	WOUS17			
	ALTERATION: Stream crossin rictions, livestock	igs, riprap, concret	te, gabions, or cor	ncrete blocks, stra	ightening of chanr	nel, channelizatior	n, embankments,	NOTES>> The been straight		
			Conditiona	al Category				Ŭ		
	Negligible	Mii	nor	Mod	erate	Se	vere			
Channel Alteration	hardening absent. Stream has an unaltered pattern or has naturalized.	the channel alterations listed in the parameter guidelines.	the channel alterations listed in the parameter guidelines.	of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	60 - 80% of reach is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	by any of the chan in the parameter 80% of banks sh riprap, c	of reach is disrupted nel alterations listed guidelines AND/OR nored with gabion, or cement.			
SCORE	1.5	1.3	1.1	0.9	0.7	0	).5			0.5
	REACH (	CONDITION I	NDEX and S	TREAM CON	NDITION UNI	TS FOR THI	S REACH			
DTE: The CIs and R	CI should be rounded to 2 decimal places. Th	ne CR should be round	ed to a whole number.				THE REACH	CONDITION IN	IDEX (RCI) >>	0.8
							RC	I= (Sum of all C	l's)/5	
							COMPENSAT	ION REQUIRE	MENT (CR) >>	27
							CR = RC	X LF X IF		

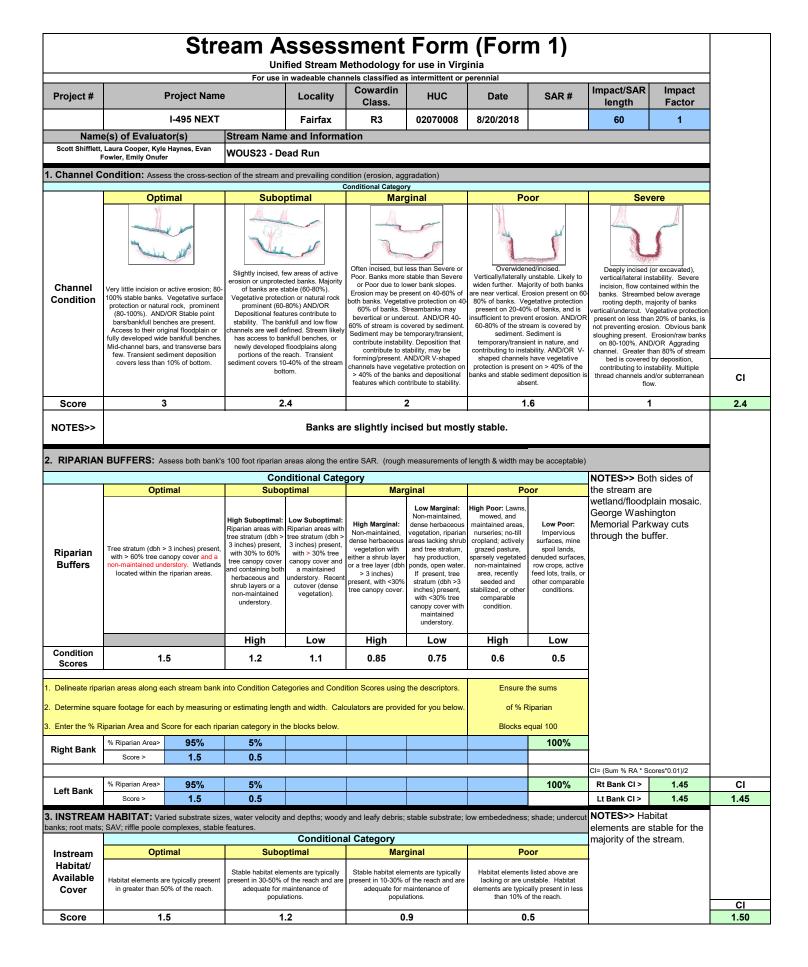




Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor	
	VDOT		Fairfax	R3	0207008	8/20/18	WOUS9			
	ALTERATION: Stream crossin rictions, livestock	igs, riprap, concre			ightening of chann	el, channelization	, embankments,	NOTES>> A of the stream	has been	
	Maailaihta	Mir		al Category	erate	<b>C</b> ••		straightened		
	Negligible	IVIII	IOF	40 - 60% of reach	60 - 80% of reach	56	/ere	through culve	ens.	
Channel Alteration	Channelization, dredging, alteration, or hardening absent. Stream has an unaltered pattern or has naturalized.	Less than 20% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	the channel	is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	by any of the chan in the parameter g 80% of banks sh riprap, o	of reach is disrupted rel alterations listed luidelines AND/OR ored with gabion, r cement.		_	
SCORE	1.5	1.3	1.1	0.9	0.7	0	.5			1.3
	REACH (	CONDITION I	NDEX and S		NDITION UNI	TS FOR THI	S REACH			
OTE: The CIs and F	CI should be rounded to 2 decimal places. Th	ne CR should be round	ed to a whole number.				THE REACH	CONDITION IN	IDEX (RCI) >>	1.1
							RC	I= (Sum of all C	l's)/5	
							COMPENSAT	ION REQUIRE	MENT (CR) >>	26
							CR = RC	X LF X IF		







Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor	
	VDOT		Fairfax	R3	0207008	8/20/18	WOUS23			
	ALTERATION: Stream crossin rictions, livestock	gs, riprap, concret			ightening of chann	el, channelization	, embankments,	NOTES>> St natural.	tream is	
			Conditiona							
	Negligible	Mir	nor	Mod 40 - 60% of reach	erate 60 - 80% of reach	Sev	/ere			
Channel Alteration	Channelization, dredging, alteration, or hardening absent. Stream has an unaltered pattern or has naturalized.	the channel	20-40% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	by any of the chan in the parameter g 80% of banks sh riprap, o	of reach is disrupted nel alterations listed juidelines AND/OR ored with gabion, r cement.			
SCORE	1.5	1.3	1.1	0.9	0.7	0	.5			1.
	REACH	CONDITION I	NDEX and S	TREAM CO	NDITION UNI	TS FOR THI	S REACH			
OTE: The CIs and F	CI should be rounded to 2 decimal places. Th	e CR should be rounde	d to a whole number.				THE REACH	CONDITION IN	IDEX (RCI) >>	1.
							RC	= (Sum of all C	il's)/5	
							COMPENSAT	ION REQUIRE	MENT (CR) >>	8
							CR = RC	X LF X IF		





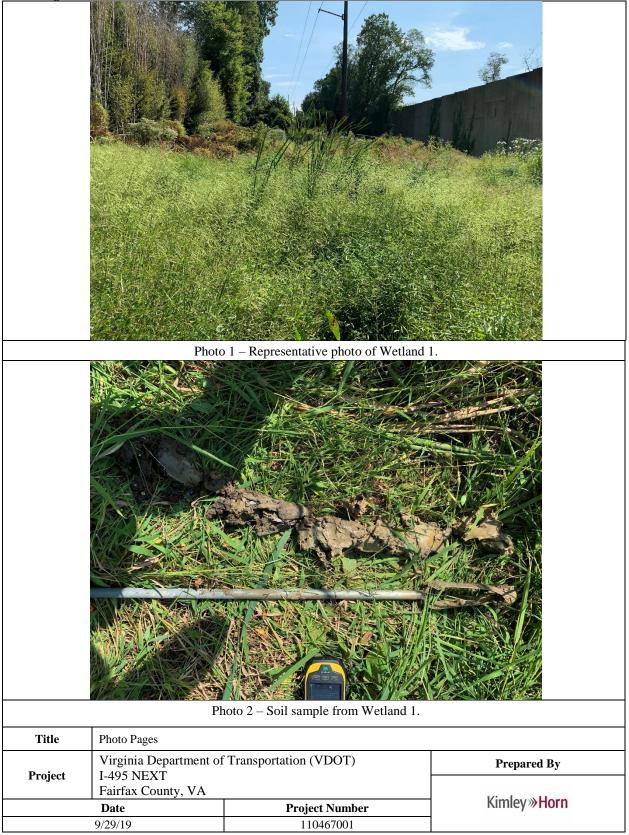


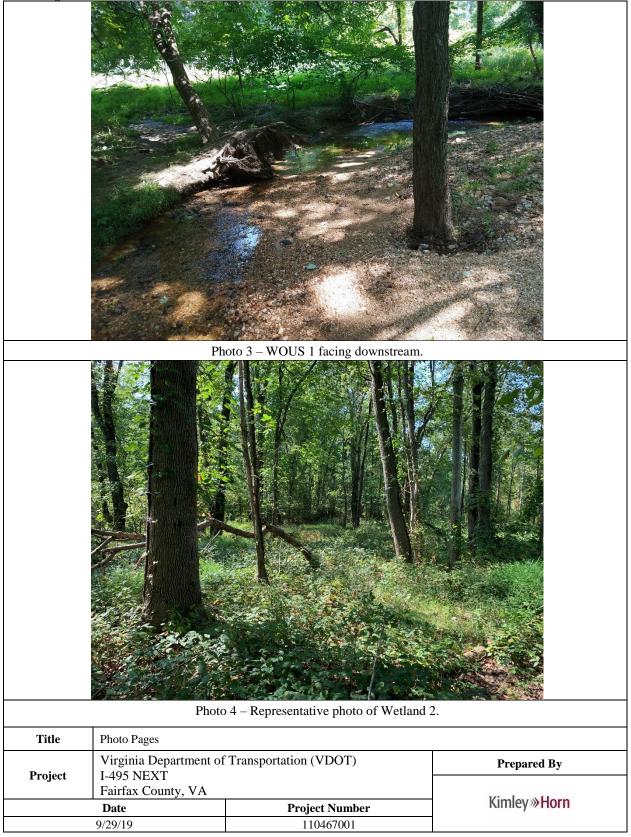
				For us	e in ephemeral s	treams				
Project #	!	Project Name	)	Locality	Cowardin Class.	HUC	Date	SAR #	Impact/SAR length	Impact Factor
		I-495 NEXT		Fairfax	EPH	02070008	9/18/2019		78	1
Nam	e(s) of Evalua	tor(s)	Stream Name	e and Informa	ation					
Kenny J	esensky & Samanth	a Stratton	WOUS28 - U	nnamed tribu	utary to Scott	's Run				
RIPARIA	N BUFFERS: A	Assess both bank	's 100 foot riparia	n areas along the	entire SAR. (rou	gh measurement	s of length & widtl	n may be accepta	ble)	
			Con	ditional Cate	aorv				NOTES>> Imp	pacted
	Opti	imal		ptimal		ginal	Po	or	portion of stre	
escriptors. . Determine so elow.	Tree stratum (dbh > with > 60% tree ca non-maintained unc are arian areas along e quare footage for e Riparian Area and	nopy cover and an lerstory. Wetlands as. 5 5 ach stream banl ach by measurin	g or estimating ler	igth and width. C	alculators are pro	Ť	of % F	Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions.	within powerlin easement.	ne
			panan oatogory m				Diodito e			
Right Bank	% Riparian Area> Score >	<u>100%</u> 0.6						100%		
	Score >	0.0							CI= (Sum % RA * Se	cores*0.01)/2
	% Riparian Area>	100%						100%	Rt Bank Cl >	0.60
Left Bank	Score >	0.6						10070	Lt Bank Cl >	0.60
	00010			NDEX and S			ITS FOR TH	IS REACH		0.00
OTE: The CIs and	RCI should be rounded	to 2 decimal places.	The CR should be rour	nded to a whole numb	er.				CONDITION IND CI= (Riparian CI)	, ,
									( )	

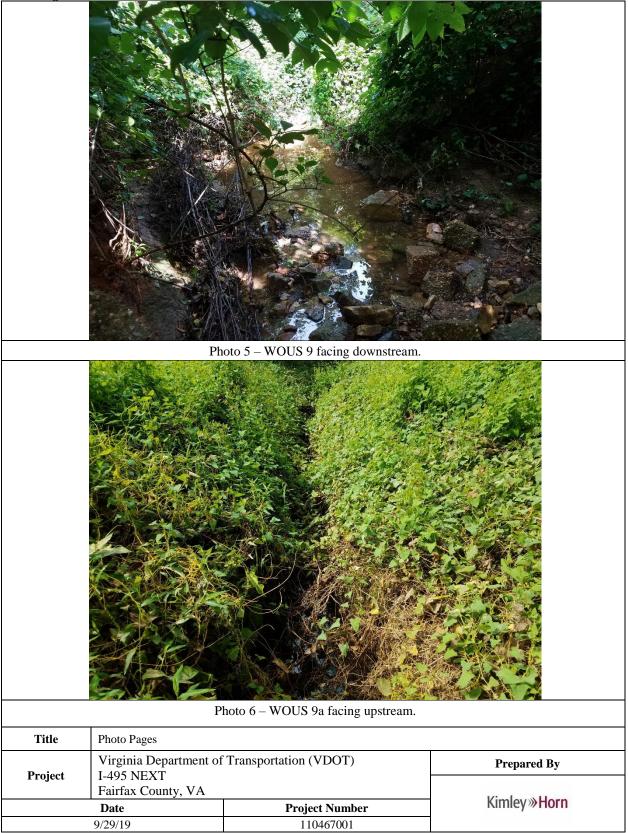
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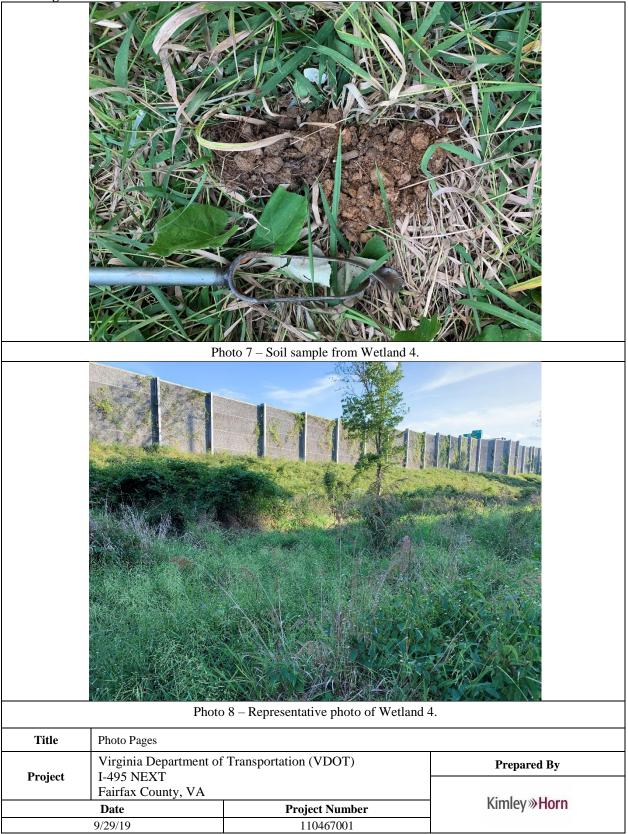


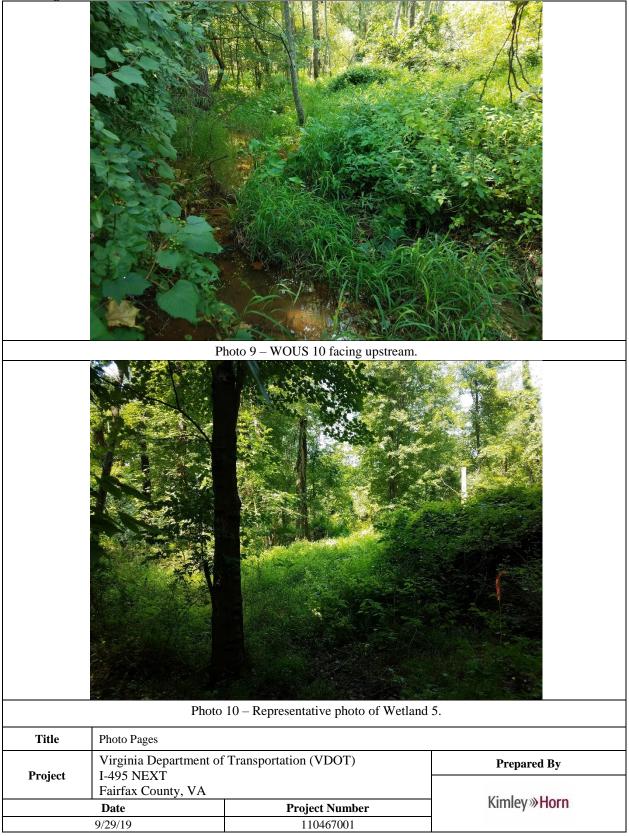
# **Site Photographs**

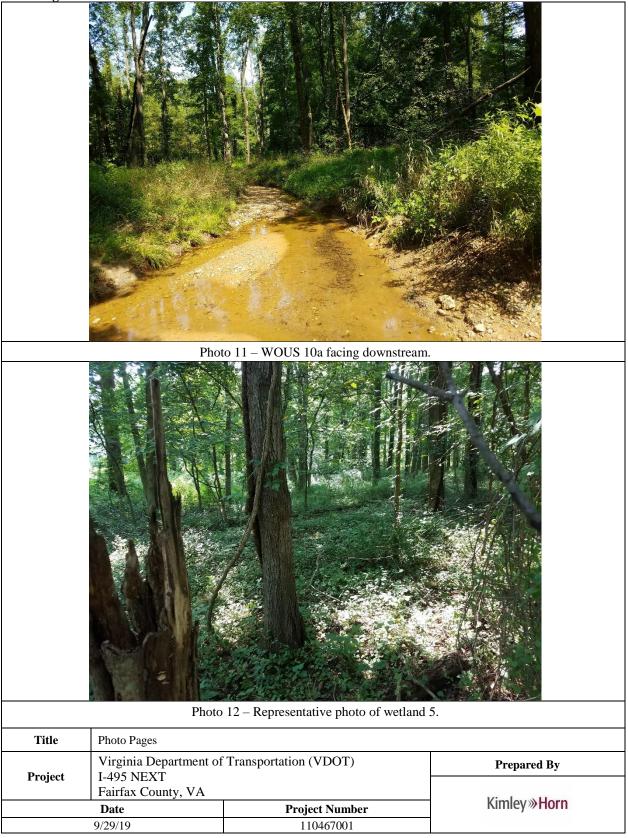




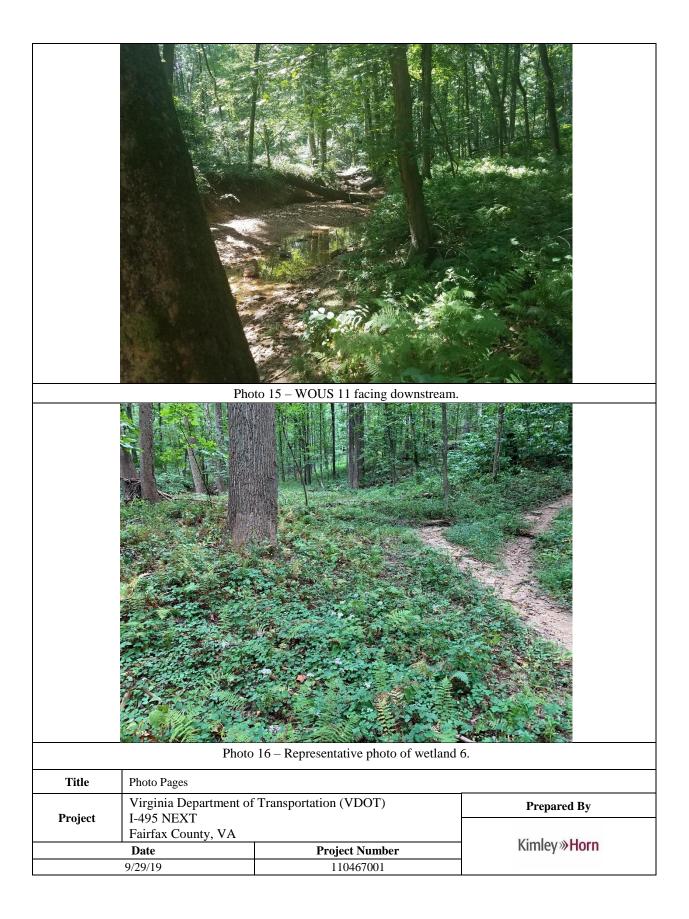


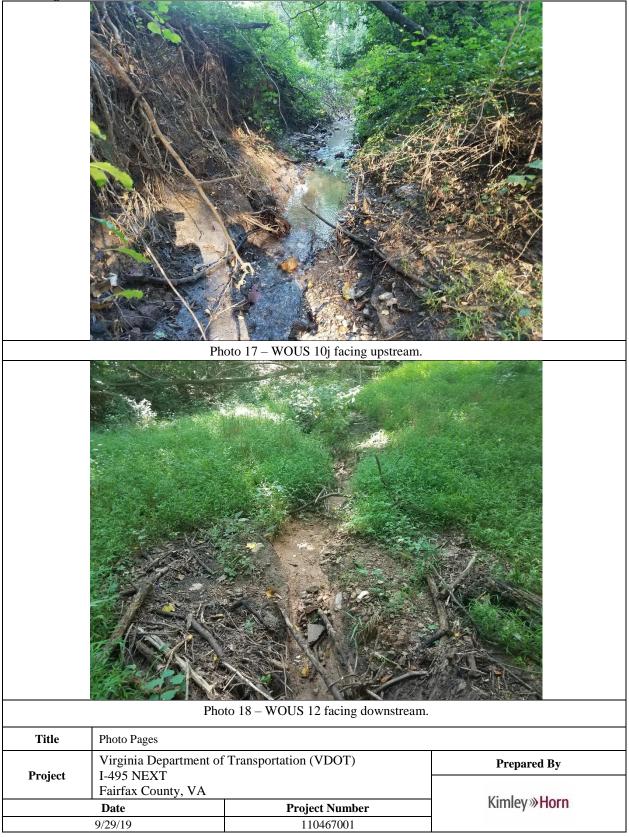


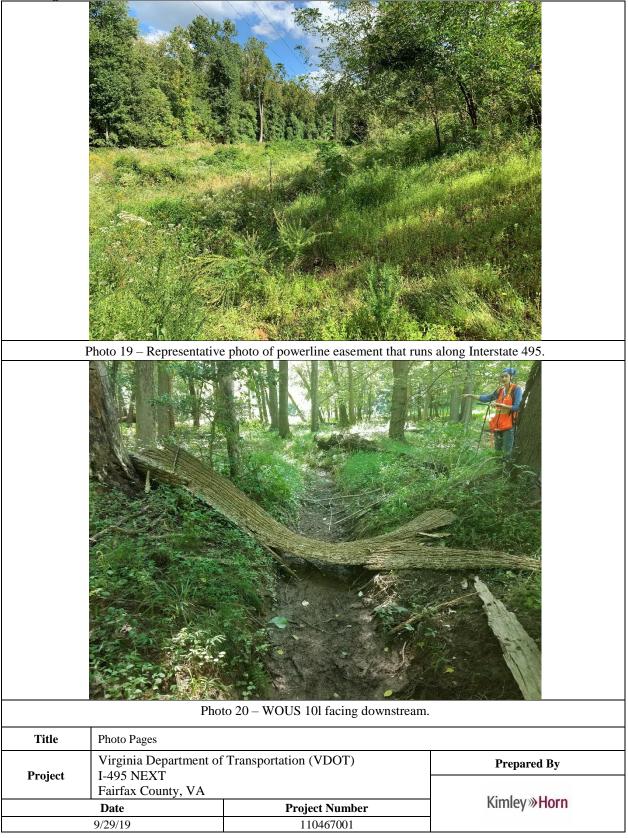


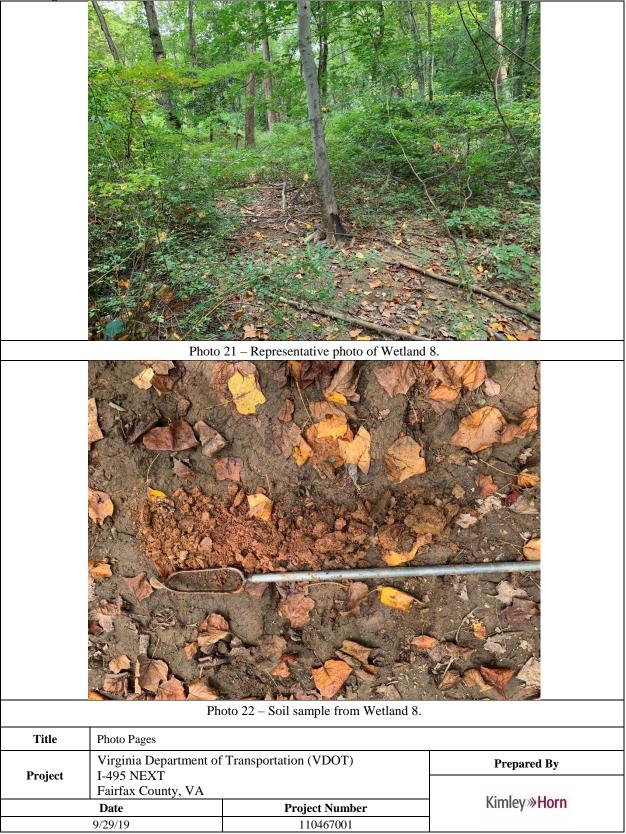


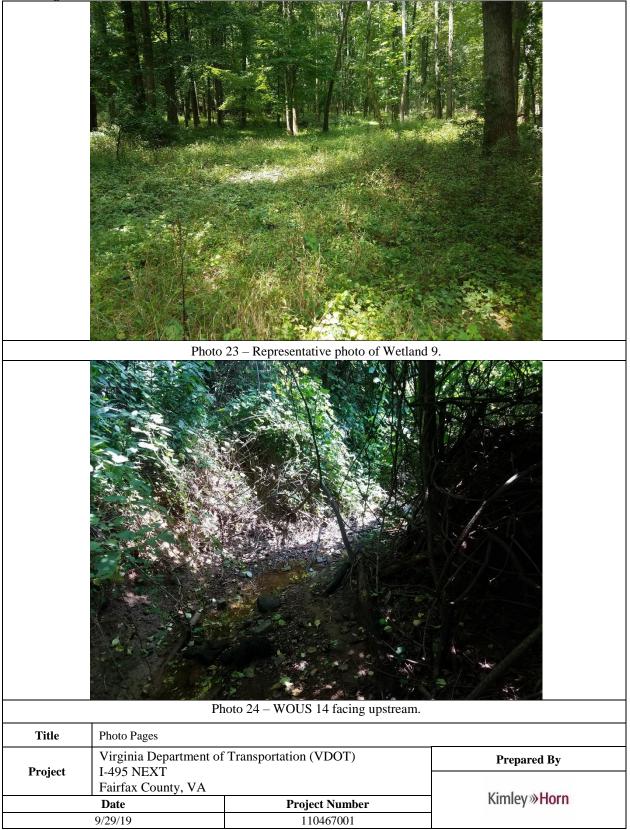








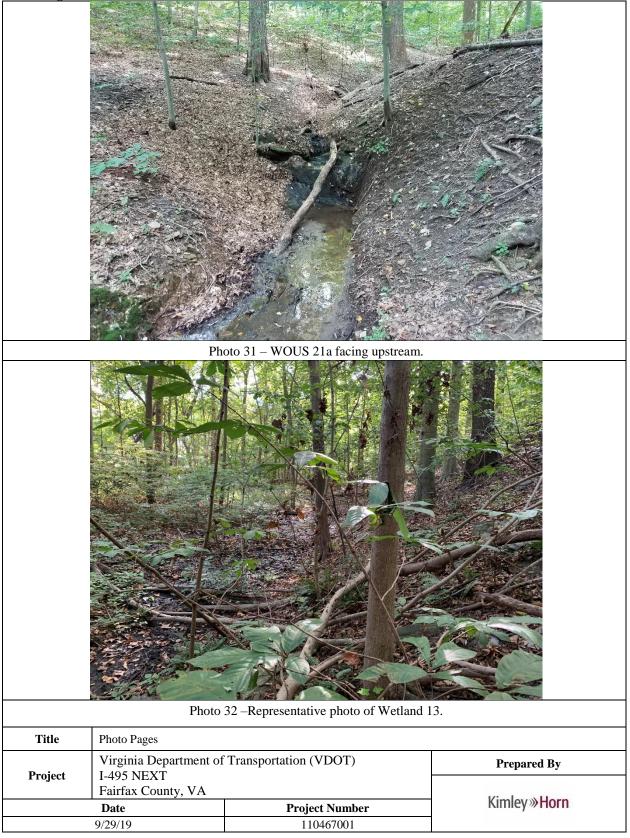








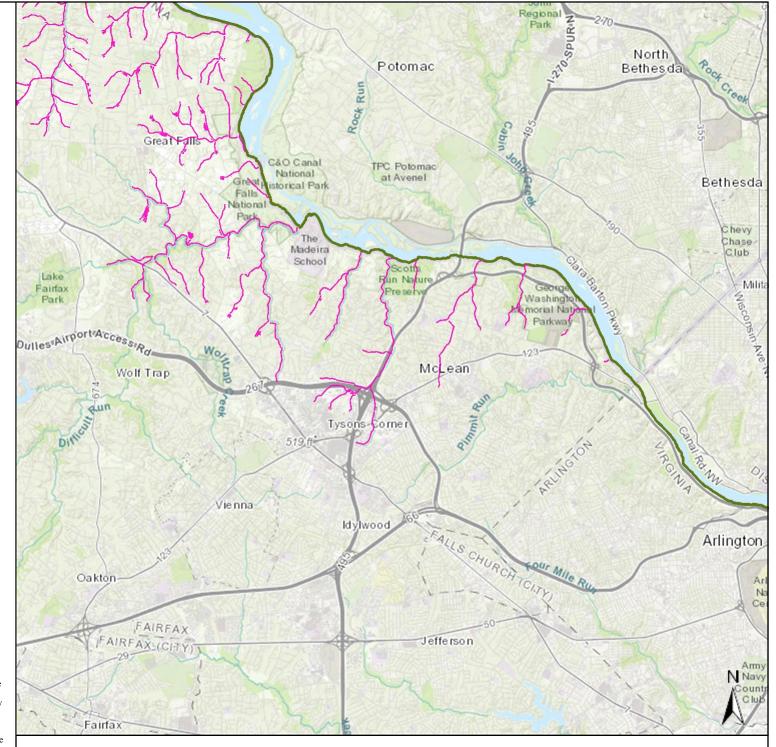








DISCLAIMER: Information contained on this map is to be used for reference purposes only. The VA Dept. of Environmental Quality makes no representation of warranty as to this map's accuracy, and in particular, its accuracy in labeling, dimensions, contours, property boundaries, or placement or location of any map features thereon. No responsibility is assumed for damages or other liabilities due to the accuracy, availability, use or misuse of the information herein provided.



**Title: I-495 NEXT Public Water Supply** 

Date: 11/26/2019

# **Appendix B: Threatened & Endangered Species Database Results**

- USFWS Official Species List
- VDGIF Initial Project Assessment Report
- Bat Maps
- Bald Eagle Maps
- DCR Agency Scoping Response
- USFWS Agency Scoping Response
- VDGIF Agency Scoping Response



# United States Department of the Interior

FISH AND WILDLIFE SERVICE Chesapeake Bay Ecological Services Field Office 177 Admiral Cochrane Drive Annapolis, MD 21401-7307 Phone: (410) 573-4599 Fax: (410) 266-9127 <u>http://www.fws.gov/chesapeakebay/</u> http://www.fws.gov/chesapeakebay/endsppweb/ProjectReview/Index.html



In Reply Refer To: Consultation Code: 05E2CB00-2020-SLI-0190 Event Code: 05E2CB00-2020-E-00514 Project Name: I-495 NEXT November 18, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

### http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/ eagle\_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/correntBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Wetlands

# **Official Species List**

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

## **Chesapeake Bay Ecological Services Field Office**

177 Admiral Cochrane Drive Annapolis, MD 21401-7307 (410) 573-4599

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following office, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

### Virginia Ecological Services Field Office

6669 Short Lane Gloucester, VA 23061-4410 (804) 693-6694

# **Project Summary**

Consultation Code:	05E2CB00-2020-SLI-0190
Event Code:	05E2CB00-2020-E-00514
Project Name:	I-495 NEXT
Project Type:	TRANSPORTATION
Project Description:	The project includes an extension of the existing Express Lanes from their current northern terminus south of the Old Dominion Drive overpass to the George Washington Memorial Parkway (GWMP) in the McLean area of Fairfax County, Virginia. The project also includes portions of the Dulles Toll Road and the Dulles International Airport Access Highway, on either side of the Capital Beltway, from the Spring Hill Road Interchange to the Route 123 interchange, inclusive of new and reconfigured ramps at the Dulles Interchange and Route 123/I-495 interchange ramp connections.

## **Project Location:**

Approximate location of the project can be viewed in Google Maps: <u>https://www.google.com/maps/place/38.943896975010844N77.20364564623969W</u>



Counties: Montgomery, MD | Fairfax, VA

# **Endangered Species Act Species**

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i>	Threatened
No critical habitat has been designated for this species.	
This species only needs to be considered under the following conditions:	
<ul> <li>Projects with a federal nexus that have tree clearing = to or &gt; 15 acres: 1. REQUEST A</li> </ul>	
SPECIES LIST 2. NEXT STEP: EVALUATE DETERMINATION KEYS 3. SELECT	
EVALUATE under the Northern Long-Eared Bat (NLEB) Consultation and 4(d) Rule	
Consistency key	
Species profile: <u>https://ecos.fws.gov/ecp/species/9045</u>	

## **Critical habitats**

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

# USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

# Wetlands

Impacts to <u>NWI wetlands</u> and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local <u>U.S. Army Corps of</u> <u>Engineers District</u>.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

LAKE

• <u>L1UBHh</u>



# United States Department of the Interior

FISH AND WILDLIFE SERVICE Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410 Phone: (804) 693-6694 Fax: (804) 693-9032 http://www.fws.gov/northeast/virginiafield/



In Reply Refer To: Consultation Code: 05E2VA00-2020-SLI-0725 Event Code: 05E2VA00-2020-E-01954 Project Name: I-495 NEXT November 18, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

### http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/ eagle\_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/correntBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

# **Official Species List**

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177 Admiral Cochrane Drive Annapolis, MD 21401-7307 (410) 573-4599

# **Project Summary**

Consultation Code:	05E2VA00-2020-SLI-0725
Event Code:	05E2VA00-2020-E-01954
Project Name:	I-495 NEXT
Project Type:	TRANSPORTATION
Project Description:	The project includes an extension of the existing Express Lanes from their current northern terminus south of the Old Dominion Drive overpass to the George Washington Memorial Parkway (GWMP) in the McLean area of Fairfax County, Virginia. The project also includes portions of the Dulles Toll Road and the Dulles International Airport Access Highway, on either side of the Capital Beltway, from the Spring Hill Road Interchange to the Route 123 interchange, inclusive of new and reconfigured ramps at the Dulles Interchange and Route 123/I-495 interchange ramp connections.

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Counties: Montgomery, MD | Fairfax, VA

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1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species.	Threatened
Species profile: <u>https://ecos.fws.gov/ecp/species/9045</u>	

# **Critical habitats**

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

# USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

View Map of

Site Location

#### Go

# Virginia Department of Game and Inland Fisheries

Home » By Coordinates » VaFWIS GeographicSelect Options

#### Options

**Species Information** 

Commonwealth of Virginia Governor

By Name

By Land Management

References

Geographic Search

Ву Мар

### By Coordinates

By Place Name

## **Database Search**

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### VaFWIS Search Report Compiled on 11/20/2019, 9:44:26 PM

Known or likely to occur within a 2 mile radius around point 38.9515640 -77.1965680 in 059 Fairfax County, VA

700 Known or Likely Species ordered by Status Concern for Conservation (displaying first 32) (32 species with Status\* or Tier I\*\* or Tier II\*\* )

BOVA Code	<u>Status*</u>	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
010032	FESE	lb	<u>Sturgeon, Atlantic</u>	Acipenser oxyrinchus		BOVA
050022	FTST	la	Bat, northern long-eared	Myotis septentrionalis		BOVA
060029	FT	lla	<u>Lance, yellow</u>	Elliptio lanceolata		BOVA
050020	SE	la	<u>Bat, little brown</u>	Myotis lucifugus	Yes	BOVA,SppObs,HU6
050027	SE	la	Bat, tri-colored	Perimyotis subflavus	<u>Yes</u>	BOVA,SppObs,HU6
060006	SE	lb	<u>Floater, brook</u>	Alasmidonta varicosa		BOVA
030062	ST	la	Turtle, wood	Glyptemys insculpta	Yes	BOVA,TEWaters,Habitat,SppObs,HU6
040096	ST	la	Falcon, peregrine	Falco peregrinus		BOVA
040293	ST	la	<u>Shrike, loggerhead</u>	Lanius Iudovicianus		BOVA
040379	ST	la	<u>Sparrow, Henslow's</u>	Ammodramus henslowii		BOVA
100155	ST	la	Skipper, Appalachian grizzled	Pyrgus wyandot		BOVA,HU6
040292	ST		<u>Shrike, migrant loggerhead</u>	Lanius ludovicianus migrans		BOVA
030063	сс	Illa	Turtle, spotted	Clemmys guttata		BOVA,HU6
010077		la	<u>Shiner, bridle</u>	Notropis bifrenatus		BOVA
040040		la	<u>Ibis, glossy</u>	Plegadis falcinellus		BOVA,HU6
040306		la	<u>Warbler, golden-winged</u>	Vermivora chrysoptera		BOVA
100248		la	<u>Fritillary, regal</u>	Speyeria idalia idalia		BOVA,HU6
040213		lc	Owl, northern saw-whet	Aegolius acadicus		BOVA,HU6
040052		lla	Duck, American black	Anas rubripes		BOVA,HU6
040033		lla	<u>Egret, snowy</u>	Egretta thula		BOVA
040029		lla	<u>Heron, little blue</u>	Egretta caerulea caerulea		BOVA
040036		lla	Night-heron, yellow-crowned	Nyctanassa violacea violacea		BOVA
040181		lla	<u>Tern, common</u>	Sterna hirundo		BOVA,HU6
040320		lla	<u>Warbler, cerulean</u>	Setophaga cerulea	Potential	BOVA,BBA,HU6
040140		lla	<u>Woodcock, American</u>	Scolopax minor		BOVA,HU6
060071		lla	Lampmussel, yellow	Lampsilis cariosa		BOVA
040203		llb	Cuckoo, black-billed	Coccyzus erythropthalmus	<u>Potential</u>	BOVA,BBA
040105		llb	<u>Rail, king</u>	Rallus elegans		BOVA,HU6
040304		llc	<u>Warbler, Swainson's</u>	Limnothlypis swainsonii	<u>Potential</u>	BOVA,BBA,HU6
070020		llc	<u>Amphipod, Pizzini's</u>	Stygobromus pizzinii		HU6
100154		llc	Butterfly, Persius duskywing	Erynnis persius persius		BOVA,HU6

#### **Fish and Wildlife Information Service**

<u>Help</u>

#### 11/20/2019

1/20/2019						ct Options
100166	1	llc	Skipper, Dotted	Hesperia attalus slossonae		HU6

#### To view All 700 species View 700

\*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; CC=Collection Concern

\*\*I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need Virginia Wildlife Action Plan Conservation Opportunity Ranking; a - On the ground management strategies/actions exist and can be feasibly implemented; c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

View Map of All Query Results from All **Observation Tables** 

#### Bat Colonies or Hibernacula: Not Known

Anadromous Fish Use Streams (1 records)

View Map of All Anadromous Fish Use Streams

Stream ID	Stream Name	Reach Status	Anadro	View Map		
Stream ID	Stream Name		Different Species	Highest TE <sup>*</sup>	Highest Tier**	view Map
C64	Potomac river	Confirmed	6		IV	<u>Yes</u>

#### Impediments to Fish Passage

N/A

#### **Colonial Water Bird Survey**

N/A

#### Threatened and Endangered Waters (1 Reach)

View Map of All

	_				Threa	atened and Endangered Wa	ters
0 to			T&E	Water	s Species		\/:
Stream Name	Highest TE <sup>*</sup>	BOVA Code, Status <sup>*</sup> , Tier <sup>**</sup> , Common & Scientific Name				View Map	
<u>Pimmit Run (017016 )</u>	ST	030062	ST	la	Turtle, wood	Glyptemys insculpta	<u>Yes</u>

#### Managed Trout Streams

N/A

#### **Bald Eagle Concentration Areas and Roosts**

N/A

#### **Bald Eagle Nests**

N/A

					N Species		View Map
obsID	class	Date Observed	Observer	Different Species	Highest TE <sup>*</sup>	Highest Tier <sup>**</sup>	
<u>302159</u>	SppObs	Jun 25 2003	J. Gates	3	SE	I	Yes
<u>312648</u>	SppObs	Aug 7 2005	ROBERT A. S. WRIGHT (PRINCIPLE PERMITTEE), PTG, INC.	1	ST	I	Yes
<u>3108</u>	SppObs	Jan 1 1928	DCR/Div. Natural Heritage	1	ST	I	Yes
<u>628252</u>	SppObs	Aug 26 2015	Danielle Wynne; John Burke; Chad Grupe; Joseph Sanchi	5		Ш	Yes
<u>65735</u>	SppObs	Jun 27 2000	NANCY ROTH (PRINCIPLE PERMITTEE), KATERINE DILLOW, FRED KELLEY, DAVE WONG, AND CRAIG BRUCE, (COLLECTORS)	17		ш	Yes
<u>85733</u>	SppObs	Apr 26 2000	NANCY ROTH (PRINCIPLE PERMITTEE), KATERINE DILLOW, FRED KELLEY, DAVE WONG, AND CRAIG BRUCE, (COLLECTORS)	11			Yes

11/20/2019

#### VaFWIS GeographicSelect Options

11/20/201	0					
<u>59551</u>	SppObs	Oct 22 1999	NANCY ROTH (PRINCIPLE PERMITTEE), KATHERINE DILLOW, & FRED, KELLEY, VERSAR, INC.	15		<u>Yes</u>
<u>59547</u>	SppObs		NANCY ROTH (PRINCIPLE PERMITTEE), KATHERINE DILLOW, & FRED, KELLEY, VERSAR, INC.	5		<u>Yes</u>
<u>425248</u>	SppObs	Aug 5 1999	VCU - INSTAR	6	Ш	Yes
<u>59643</u>	SppObs	Aug 5 1999	MS. AMY MAHER, COUNTY OF FAIRFAX, DEPT. OF PUBLIC WORKS	6	Ш	Yes
<u>59544</u>	SppObs	Jun 17 1999	NANCY ROTH (PRINCIPLE PERMITTEE), KATHERINE DILLOW, & FRED, KELLEY, VERSAR, INC.	10		<u>Yes</u>
<u>59541</u>	SppObs	Apr 20 1999	NANCY ROTH (PRINCIPLE PERMITTEE), KATHERINE DILLOW, & FRED, KELLEY, VERSAR, INC.	6		<u>Yes</u>
<u>59539</u>	SppObs	Apr 20 1999	NANCY ROTH (PRINCIPLE PERMITTEE), KATHERINE DILLOW, & FRED, KELLEY, VERSAR, INC.	16		<u>Yes</u>
<u>7686</u>	SppObs	Jun 20 1995	WAYNE C. STARNES	7	Ш	<u>Yes</u>
<u>305490</u>	SppObs	Jun 20 1995	WAYNE C. STARNES	5	Ш	<u>Yes</u>
<u>305485</u>	SppObs	Jun 6 1995	WAYNE C. STARNES	5		Yes
7683	SppObs	Jun 6 1995	WAYNE C. STARNES	5		Yes
<u>5180</u>	SppObs	May 17 1993	Joseph C. Mitchell	1		<u>Yes</u>
<u>334820</u>	SppObs	Jan 1 1974	DPK-B-KELSO	4		Yes
<u>364732</u>	SppObs	Jan 1 1900		3	IV	<u>Yes</u>
		<u>.</u>				

Displayed 20 Species Observations

#### Selected 92 Observations View all 92 Species Observations

#### Habitat Predicted for Aquatic WAP Tier I & II Species (4 Reaches)

View Map Combined Reaches from Below of Habitat Predicted for WAP Tier I & II Aquatic Species

Office and Name	Tier Species							
Stream Name	Highest TE <sup>*</sup>	BOVA C	BOVA Code, Status <sup>*</sup> , Tier <sup>**</sup> , Common & Scientific Name					
Bullneck Run (20700081)	ST	030062	ST	la	Turtle, wood	Glyptemys insculpta	Yes	
Pimmit Run (20700101)	ST	030062	ST	la	Turtle, wood	Glyptemys insculpta	Yes	
tributary (20700081)	ST	030062	ST	la	Turtle, wood	Glyptemys insculpta	Yes	
Turkey Run (20700081)	ST	030062	ST	la	Turtle, wood	Glyptemys insculpta	Yes	

#### Habitat Predicted for Terrestrial WAP Tier I & II Species

BOVA Code	Status*	Tier**	Common Name	Scientific Name	View Map
040038			<u>Bittern, American</u>	Botaurus lentiginosus	<u>Yes</u>

Virginia Breeding Bird Atlas Blocks (4 records)

#### View Map of All Query Results Virginia Breeding Bird Atlas Blocks

		Breeding Bird Atlas Species			
BBA ID	Atlas Quadrangle Block Name	Different Species	Highest TE <sup>*</sup>	Highest Tier**	View Map
53204	Falls Church, CE	54			<u>Yes</u>
53203	Falls Church, CW	56			<u>Yes</u>
53202	Falls Church, NE	54			<u>Yes</u>
53201	Falls Church, NW	88		II	<u>Yes</u>

#### Public Holdings: (1 names)

Name	Agency	Level
George Washington Memorial National Parkway	National Park Service	Federal

#### Summary of BOVA Species Associated with Cities and Counties of the Commonwealth of Virginia:

FIPS Code	City and County Name	Different Species	Highest TE	Highest Tier
059	<u>Fairfax</u>	559	FESE	I

USGS 7.5' Quadrangles: Falls Church USGS NRCS Watersheds in Virginia:

N/A

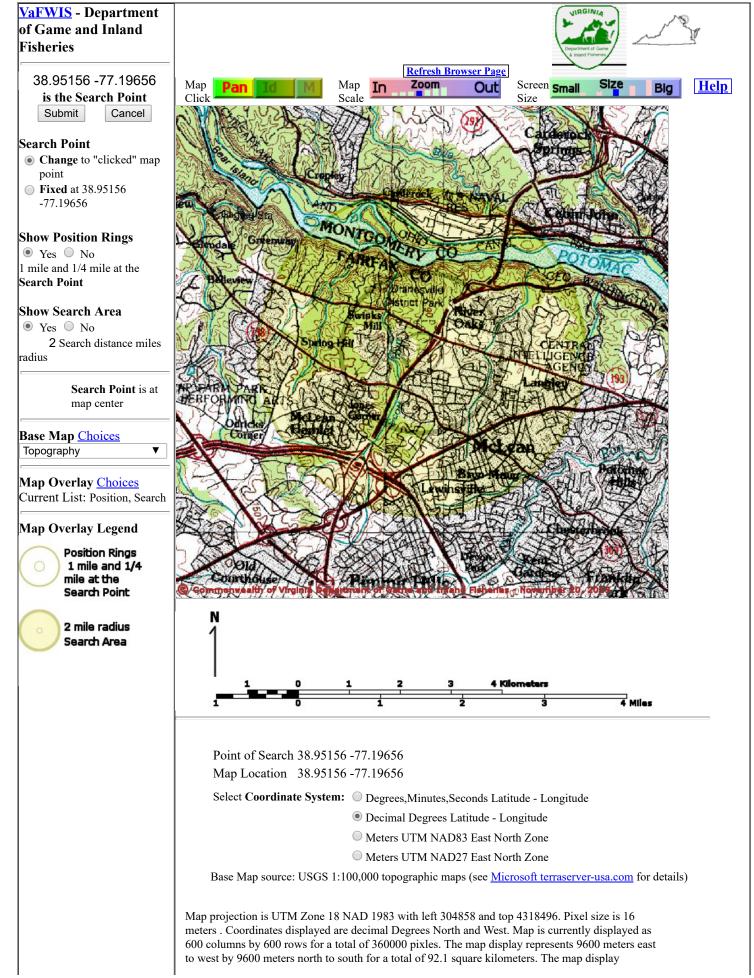
#### USGS National 6th Order Watersheds Summary of Wildlife Action Plan Tier I, II, III, and IV Species:

HU6 Code	USGS 6th Order Hydrologic Unit	Different Species	Highest TE	Highest Tier
PL22	Difficult Run	67	ST	I
PL23	Potomac River-Nichols Run-Scott Run	69	SE	I
PL24	Potomac River-Pimmit Run	68	SE	I

Compiled on 11/20/2019, 9:44/26 PM 11002911.0 report-all searchType=R dist= 3218 ppi= 38 9515640 -77.1965680 PweBiZeres4: Anadromous=0.038004; BBA=0.060814; BECSAR=0.020406; Bats=0.020172; Buffer=0.122071; County=0.078273; HUB=0.07070; Impediments=0.021766; Init=0.180633; PublicLands=0.037695; Quad=0.041679; SppObs=0.209686; TEW Tracking\_BOX=0.040333; Trout=0.00266; huwa=0.038769; August=0.020172; Buffer=0.122071; County=0.078273; HUB=0.07070; Impediments=0.021766; Init=0.180633; PublicLands=0.037695; Quad=0.041679; SppObs=0.209686; TEW =0.056931; TierTerrestrial=0.055811; Total=1.346395; ers=0.03846; TierReact

| 11/20/2019, 9:44:26 PM | <u>DGIF</u> | <u>Credits</u> | <u>Disclaimer</u> | Please view our <u>privacy policy</u> | © 1998-2019 Commonwealth of Virginia Department of Game and Inland Fisheries I 1002911

If you have difficulty reading or accessing documents, please  $\underline{Contact \ Us}$  for assistance.

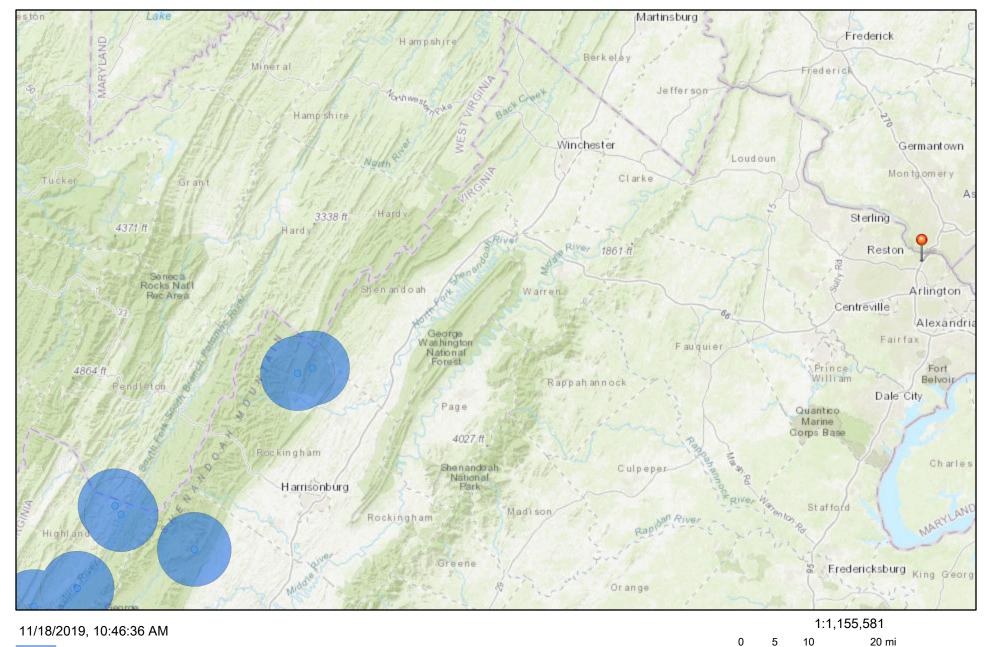


#### VaFWIS Map

	represents 31501 feet east to west by 31501 feet north to south for a total of 35.5 square miles.
	Topographic maps and Black and white aerial photography for year 1990+- are from the United States Department of the Interior, United States Geological Survey. Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network. Shaded topographic maps are from TOPO! ©2006 National Geographic http://www.national.geographic.com/topo All other map products are from the Commonwealth of Virginia Department of Game and Inland Fisheries.
	map assembled 2019-11-20 21:44:03 (qa/qc March 21, 2016 12:20 - tn=1002911 dist=3218 I ) \$poi=38.9515640 -77.1965681
<u>DGI</u>	<u>F   Credits   Disclaimer   Contact vafwis_support@dgif.virginia.gov</u>  Please view our <u>privacy policy</u>

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# NLEB Locations and Roost Trees



NLEB Hibernaculum 5.5 Mile Buffer



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS,

12.5

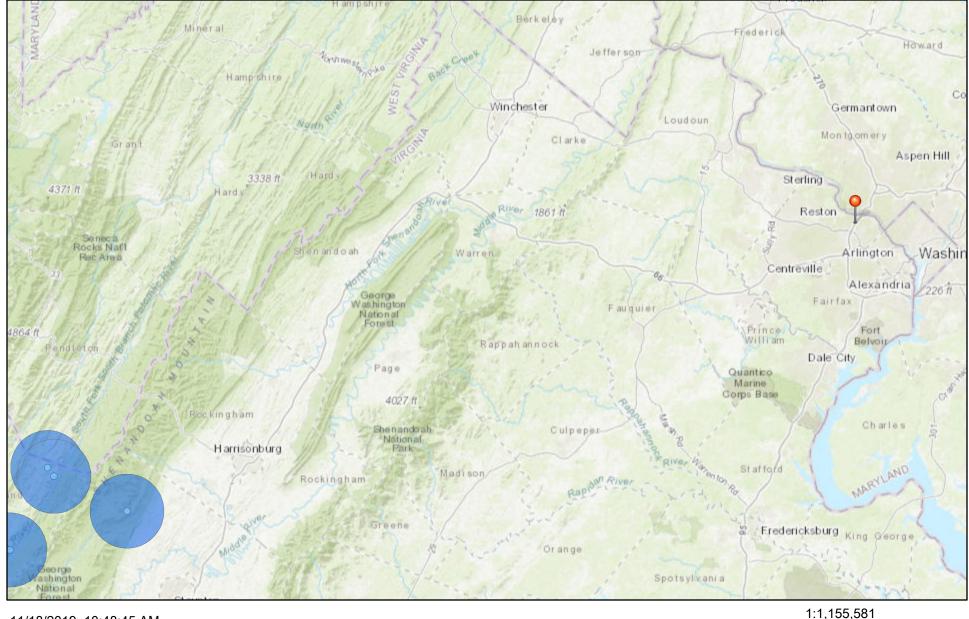
0

25

VA Dept. Game & Inland Fisheries Esri, HERE, Garmin, FAO, USGS, NGA, EPA, NPS |

50 km

# **MYLU PESU Habitat**



### 11/18/2019, 10:48:45 AM

Tri-colored and Little Brown Hibernaculum Half Mile Buffer

Tri-colored and Little Brown Hibernaculum 5.5 Mile Buffer

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS,

25

5

0

n

10

12.5

Dept. Game and Inland Fisheries Esri, HERE, Garmin, FAO, USGS, NGA, EPA, NPS |

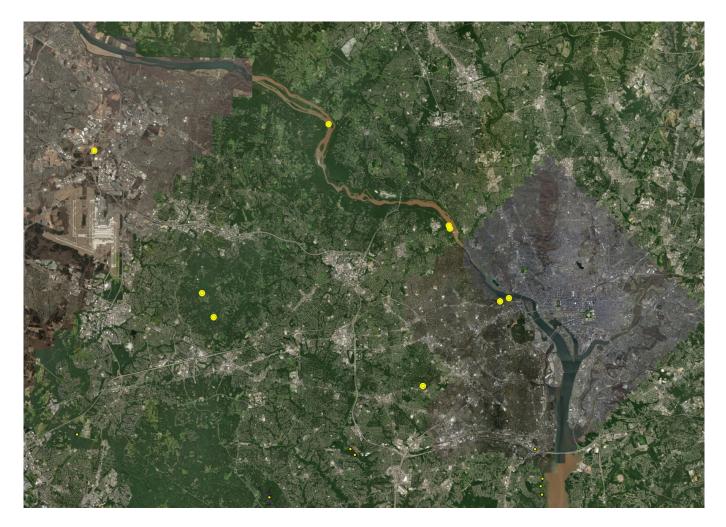
20 mi

50 km



The CENTER for CONSERVATION BIOLOGY

# CCB Mapping Portal



Layers: VA Eagle Nest Locator, VA Eagle Nest Buffers, Eagle Roosts, Eagle Roost Polygons, Eagle Roost Buffers

Map Center [longitude, latitude]: [-77.2119140625, 38.94232097947902]

#### Map Link:

 $\label{eq:https://ccbbirds.org/maps/#layer=VA+Eagle+Nest+Locator&layer=VA+Eagle+Nest+Buffers&layer=Eagle+Roosts&layer=Eagle+Roost+Buffers&zoom=12&lat=38.94232097947902&lng=-77.2119\\140625&base=World+Imagery+%28ESRI%29$ 

### Report Generated On: 11/18/2019

The Center for Conservation Biology (CCB) provides certain data online as a free service to the public and the regulatory sector. CCB encourages the use of its data sets in wildlife conservation and management applications. These data are protected by intellectual property laws. All users are reminded to view the <u>Data Use Agreement</u> to ensure compliance with our data use policies. For additional data access questions, view our <u>Data Distribution Policy</u>, or contact our Data Manager, Marie Pitts, at mlpitts@wm.edu or 757-221-7503.

Report generated by The Center for Conservation Biology Mapping Portal.

To learn more about CCB visit <a href="mailto:ccbbirds.org">ccbbirds.org</a> or contact us at info@ccbbirds.org</a>

Matthew J. Strickler Secretary of Natural Resources

Clyde E. Cristman Director



COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

Rochelle Altholz Deputy Director of Administration and Finance

Russell W. Baxter Deputy Director of Dam Safety & Floodplain Management and Soil & Water Conservation

Thomas L. Smith Deputy Director of Operations

December 20, 2019

Samantha Stratton Kimley-Horn and Associates 11400 Commerce Park Drive, Suite 400 Reston, VA 20191

Re: UPC 113414, I-495 Next Express Lanes Northern Extension

Dear Ms. Stratton:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in our files, the Potomac Gorge Conservation Site is located within the project site. Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. Conservation sites are polygons built around one or more rare plant, animal, or natural community designed to include the element and, where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation sites are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. The Potomac Gorge Conservation Site has been given a biodiversity significance ranking of B1, which represents a site of outstanding significance. The natural heritage resources of concern at this site are:

Maianthemum stellatum	Starry Solomon's-plume	G5/S1S2/NL/NL
Phacelia covillei	Coville's phacelia	G3/S1/NL/NL
Gomphus fraternus	Midland Clubtail	G5/S2/NL/NL
Boechera dentata	Short's rock cress	G5/S1/NL/NL
Silene nivea	Snowy Campion	G4?/S1/NL/NL
Gomphus fraternus	Midland Clubtail	G5/S2/NL/NL
Matteuccia struthiopteris var. pensylvanica	Ostrich Fern	G5T5/S1/NL/NL
Piedmont / Northern Coastal Plain Basic Seepa	age Swamp	G4G5/S2?/NL/NL
Central Appalachian / Piedmont Basic Mesic I	Forest (Twinleaf - Blue Cohosh Type)	G4G5/S4/NL/NL
Central Appalachian / Piedmont Low-Elevatio	n Rich Boulderfield Forest	G3G4/S2S3/NL/NL
Coastal Plain / Outer Piedmont Basic Mesic Fe	orest	G4?/ S3/NL/NL
Northern Coastal Plain / Piedmont Mesic Mixe	ed Hardwood Forest	G5/S5/NL/NL

In addition, Tall Thistle (*Cirsium altissimum*, G5/S1/NL/NL), Wild cucumber (*Echinocystis lobata*, G5/SH/NL/NL), Smartweed Dodder (*Cuscuta polygonorum*, G5/S1/NL/NL), Northern rattlesnake-master

600 East Main Street, 24th Floor | Richmond, Virginia 23219 | 804-786-6124

State Parks • Soil and Water Conservation • Outdoor Recreation Planning Natural Heritage • Dam Safety and Floodplain Management • Land Conservation (*Eryngium yuccifolium var. yuccifolium*, G5T5/S2/NL/NL), One-sided shinleaf (*Orthilia secunda*, G5/SH/NL/NL) and Pizzini's Amphipod (*Stygobromus pizzinii*, G3G4/S1S2/NL/NL) have been historically documented within the project site.

Furthermore, according to a DCR biologist, there is potential for the Northern Virginia Well amphipod (*Stygobromus phreaticus*, G1/S1/SOC/NL) and other *Stygobromus* amphipod species to occur within the portion of the project site along the George Washington Memorial Parkway.

DCR recommends avoidance of impacts to documented occurrences of natural heritage resources by limiting the project footprint to the greatest extent possible, including along the steep bluff on the eastern side of I-495 along the Potomac River. Due to the potential for this site to support additional populations of natural heritage resources, DCR also recommends an inventory for the resources within areas proposed for disturbance including stormwater management ponds and equipment staging areas. With the survey results we can more accurately evaluate potential impacts to natural heritage resources and offer specific protection recommendations for minimizing impacts to the documented resources.

DCR-Division of Natural Heritage biologists are qualified and available to conduct inventories for rare, threatened, and endangered species. Please contact Anne Chazal, Natural Heritage Chief Biologist, at <u>anne.chazal@dcr.virginia.gov</u> or 804-786-9014 to discuss arrangements for fieldwork.

In addition, the proposed project will fragment two C4 Ecological Cores as identified in the Virginia Natural Landscape Assessment (<u>https://www.dcr.virginia.gov/natural-heritage/vaconvisvnla</u>), one of a suite of tools in Virginia ConservationVision that identify and prioritize lands for conservation and protection.

Ecological Cores are areas of unfragmented natural cover with at least 100 acres of interior that provide habitat for a wide range of species, from interior-dependent forest species to habitat generalists, as well as species that utilize marsh, dune, and beach habitats. Cores also provide benefits in terms of open space, recreation, water quality (including drinking water protection and erosion prevention), and air quality (including carbon sequestration and oxygen production), along with the many associated economic benefits of these functions. The cores are ranked from C1 to C5 (C5 being the least ecologically relevant) using many prioritization criteria, such as the proportions of sensitive habitats of natural heritage resources they contain.

Fragmentation occurs when a large, contiguous block of natural cover is dissected by development, and other forms of permanent conversion, into one or more smaller patches. Habitat fragmentation results in biogeographic changes that disrupt species interactions and ecosystem processes, reducing biodiversity and habitat quality due to limited recolonization, increased predation and egg parasitism, and increased invasion by weedy species.

Therefore minimizing fragmentation is a key mitigation measure that will preserve the natural patterns and connectivity of habitats that are key components of biodiversity. The deleterious effects of fragmentation can be reduced by minimizing edge in remaining fragments; by retaining natural corridors that allow movement between fragments; and by designing the intervening landscape to minimize its hostility to native wildlife (natural cover versus lawns).

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on statelisted threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

New and updated information is continually added to Biotics. Please re-submit a completed order form and project map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

A fee of \$120.00 has been assessed for the service of providing this information. Please find attached an invoice for that amount. Please return one copy of the invoice along with your remittance made payable to the Treasurer of Virginia, **DCR** - **Division of Natural Heritage, 600 East Main Street, 24<sup>th</sup> Floor, Richmond, VA 23219.** Payment is due within thirty days of the invoice date. <u>Please note the change of address for remittance of payment as of July 1, 2013.</u> Late payment may result in the suspension of project review service for future projects.

The Virginia Department of Game and Inland Fisheries (VDGIF) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from <u>http://vafwis.org/fwis/</u> or contact Ernie Aschenbach at 804-367-2733 or <u>Ernie.Aschenbach@dgif.virginia.gov</u>.

Should you have any questions or concerns, please contact me at 804-225-2429. Thank you for the opportunity to comment on this project.

Sincerely,

Tyle Meade

Tyler Meader Natural Heritage Locality Liaison

CC: Troy Andersen, USFWS

## Stratton, Samantha

From:	rachel_case@fws.gov on behalf of Virginia Field Office, FW5 <virginiafieldoffice@fws.gov></virginiafieldoffice@fws.gov>
Sent:	Thursday, January 9, 2020 9:31 AM
То:	Stratton, Samantha
Subject:	Re: [EXTERNAL] Project Review: I-495 NEXT UPC #113414 - Fairfax County, VA
Categories:	External

Hi Samantha,

We have no further comments on this project. For future reference, if the northern long-eared bat (NLEB) is the only species on your Official Species List, and you have utilized the determination key for this species--you do not need to submit anything to our office for review; the verification letter generated by that key fulfills your section 7 requirements with our office. Moreover, if you do have additional species, aside from the NLEB, you will need to submit a project package.

All the best, Rachel

On Wed, Jan 8, 2020 at 11:48 AM Stratton, Samantha <<u>Samantha.Stratton@kimley-horn.com</u>> wrote:

Rachel,

Please confirm that your agency has no further comment on our determinations regarding this project.

Thank you,

Samantha Stratton | Environmental Analyst Kimley-Horn | 11400 Commerce Park Drive Suite 400 Reston, VA 20191 Direct: 703 462 2706 | <u>www.kimley-horn.com</u>

Celebrating 12 years as one of FORTUNE's 100 Best Companies to Work For

From: Stratton, Samantha
Sent: Tuesday, November 26, 2019 3:45 PM
To: Virginia Field Office, FW5 <<u>virginiafieldoffice@fws.gov</u>>; <u>rachel\_case@fws.gov</u>
Subject: RE: [EXTERNAL] Project Review: I-495 NEXT UPC #113414 - Fairfax County, VA

Hi Rachel,

We're in NEPA right now and we're not sure of impacts yet, but it can be preliminarily assumed that all 103 acres in the LOD will be cleared. I also have attached the NLEB determination key to this email for your reference.

Thank you,

Samantha Stratton | Environmental Analyst Kimley-Horn | 11400 Commerce Park Drive Suite 400 Reston, VA 20191 Direct: 703 462 2706 | www.kimley-horn.com

Celebrating 12 years as one of FORTUNE's 100 Best Companies to Work For

From: rachel\_case@fws.gov <rachel\_case@fws.gov> On Behalf Of Virginia Field Office, FW5
Sent: Tuesday, November 26, 2019 2:57 PM
To: Stratton, Samantha <<u>Samantha.Stratton@kimley-horn.com</u>>
Subject: Re: [EXTERNAL] Project Review: I-495 NEXT UPC #113414 - Fairfax County, VA

Samantha,

Thank you for your project submission. Will this project require any tree removal?

Regards,

Rachel

On Thu, Nov 21, 2019 at 7:55 PM Stratton, Samantha <<u>Samantha.Stratton@kimley-horn.com</u>> wrote:

Citrix Attachments	Expires May 19, 2020
495_AllUSFWS_111919.pdf	29.2 MB
Download Attachments	
Samantha Stratton uses Citrix Files to share documents securely.	

On behalf of Robert Iosco (<u>Robert.Iosco@vdot.virginia.gov</u>, (703) 259-2764) at the Virginia Department of Transportation (VDOT):

We have reviewed the referenced project using the Virginia Field Office's online project review process and have followed all guidance and instructions in completing the review. We completed our review on November 19, 2019 and are submitting our project review package in accordance with the instructions for further review.

The Virginia Department of Transportation (VDOT), in coordination with the Federal Highway Administration (FHWA) as the lead federal agency, is evaluating an extension of the Interstate 495 (I-495) Express Lanes between Tysons and the Virginia State Line. We are requesting your comments on potential effects to threatened and endangered species found within the study area in order to complete our technical reports for NEPA documentation. A project description can be seen below:

The Build Alternative would extend the existing four I-495 Express Lanes from their current terminus between the I-495/Route 267 interchange and the Old Dominion Drive Overpass north approximately 2.3 miles to the George Washington Memorial Parkway (GWMP). Additional improvements are anticipated to extend approximately 0.3 miles north of the GWMP to provide a tie-in to the existing road network at the American Legion Memorial Bridge (ALMB). The Build Alternative would retain the existing number of general purpose (GP) lanes in each direction between the I-495/Route 267 interchange and the ALMB, consistent with the configuration of the existing I-495 Express Lanes. Direct access ramps would be provided from the I-495 Express Lanes to the Dulles Toll Road and the GWMP. Access would also be provided between the Express Lanes and GP lanes.

According to USFWS IPaC, the Northern Long-Eared Bat (*Myotis septentrionalis*) is listed as a species of concern for the project. No winter hibernacula or maternity roosts were identified in the study area according to NLEB and MYLU & PESU Habitat Mappers, nor were any eagle nests identified on the CCB Bald Eagle Mapper. The enclosed project review package provides the information about the species, critical habitat, and bald eagles considered in our review, official species list, self-certification letter, and the species conclusions table which identifies our determinations for the resources that may be affected by the project. According to the 2016

Virginia Land Cover Dataset provided by the Virginia Geographic Information Network (VGIN), there are 103 acres of forestland within our Limits of Disturbance (smaller than the study area shown in figures provided) that we are assuming will be impacted. Also attached are the database results and project mapping. Due to network issues on the USFWS IPaC website the Verification Letter for the NLEB Determination Key is not included in this packet, but will be sent as soon as possible.

We would appreciate your concurrence on our findings or any other comments USFWS may have.

Thank you,

Samantha Stratton | Environmental Analyst Kimley-Horn | 11400 Commerce Park Drive Suite 400 Reston, VA 20191 Direct: 703 462 2706 | <u>www.kimley-horn.com</u>

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## Stratton, Samantha

From: Sent: To:	ernie.aschenbach@dgif.virginia.gov on behalf of ProjectReview (DGIF), rr <projectreview@dgif.virginia.gov> Wednesday, February 12, 2020 12:40 PM Stratton, Samantha; Robert Iosco; rr ProjectReview (DGIF); Troy Andersen; rr vdotprojects</projectreview@dgif.virginia.gov>
Subject:	Re: Attn: Ernie Aschenbach - I-495 NEXT - UPC #113414
Categories:	External

ESSLog 30346; Consultant administered VDOT extension of the Interstate 495 (I-495) Express Lanes between Tysons and the Virginia State Line (scoping request)

Due to staffing limitations, we are unable to review and provide preliminary scoping comments on projects that are not currently involved in one of the regulatory review processes for which we are a formal consulting agency (see <u>https://www.dgif.virginia.gov/environmental-</u> <u>programs/</u>). If your project subsequently requires a permit or environmental review which involves our Department, we will provide comments through that process to the appropriate agencies. Thank you for soliciting our review of your project, and we invite you to conduct your own review of your project through the Virginia Fish and Wildlife Information Service (VAFWIS) at: <u>http://vafwis.org/fwis/</u>.

Thank you for providing the above-referenced preliminary search results. We offer the following recommendations:

**Cross-reference VAFWIS Bald Eagle nest presence/absence with CCB:** We recommend performing an updated search of bald eagle nests known from the area using the Center for Conservation Biology (CCB) website to evaluate whether active bald eagle nests are known from the project area: <u>http://www.ccbbirds.org/what-we-do/research/species-of-concern/virginia-eagles/nest-locator/</u>.

**Impacts to bats and bat habitat:** If tree removal or forest management is anticipated, project design and construction should adhere to our standard protocols for bat habitat assessment and protection at:

http://www.dgif.virginia.gov/wildlife/bats/little-brown-bat-tri-colored-bat-winter-habitatroosts-application/

and;

http://www.dgif.virginia.gov/wildlife/bats/northern-long-eared-bat-application/.

**Incidental take and best management practices to protect bats:** In addition, the project should incorporate the recommendations in the Department's *Guidance Document on Best Management Practices for Conservation of Little Brown Bats and Tri-Colored Bats*, at: <a href="https://www.dgif.virginia.gov/wp-content/uploads/LBBA\_TCBA\_Guidance.pdf">https://www.dgif.virginia.gov/wp-content/uploads/LBBA\_TCBA\_Guidance.pdf</a>.

If the project proponent elects not to adhere to these recommendations, they may opt to prepare a Conservation Plan to address incidental take of these state-endangered bats. For additional guidance we recommend the proponent refer to our *Best Management Practices* referenced above, and contact DGIF's Bat Biologist, Rick Reynolds, at (540) 248-9360.

**Distribution of our standard awareness guidance for the ST wood turtle to all VDOT staff and contractors:** <u>https://www.dgif.virginia.gov/wp-content/uploads/Wood-Turtle-Field-Observation-</u> <u>Form.pdf</u> and strict adherence to our standard guidelines for VDOT projects protective of ST wood turtles.

If instream work becomes necessary, we anticipate a Joint Permit Application (JPA) will be distributed for agency review. We will review the JPA and provide comments as appropriate. Thanks.



Ernie Aschenbach

Environmental Services Biologist P 804.367.2733 Email: Ernie.Aschenbach@dgif.virginia.gov Virginia Department of Game & Inland Fisheries CONSERVE. CONNECT. PROTECT. A 7870 Villa Park Drive, P.O. Box 90778, Henrico, VA 23228-0778 www.dgif.virginia.gov

On Mon, Feb 10, 2020 at 11:12 AM Stratton, Samantha <<u>Samantha.Stratton@kimley-horn.com</u>> wrote:

Good morning Ernie,

Following up again with you to confirm that your agency has no further comments on our determinations regarding this project.

Thank you!

Samantha Stratton | Environmental Analyst Kimley-Horn | 11400 Commerce Park Drive Suite 400 Reston, VA 20191 Direct: 703 462 2706 | <u>www.kimley-horn.com</u>

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From: Stratton, Samantha Sent: Thursday, January 30, 2020 6:37 PM To: ProjectReview (DGIF), rr <<u>projectreview@dgif.virginia.gov</u>> Subject: RE: Attn: Ernie Aschenbach - I-495 NEXT - UPC #113414

Ernie,

Wanted to follow up again with you to confirm that your agency has no further comments on our determinations regarding this project.

Thank you,

Samantha Stratton | Environmental Analyst Kimley-Horn | 11400 Commerce Park Drive Suite 400 Reston, VA 20191 Direct: 703 462 2706 | www.kimley-horn.com

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From: Stratton, Samantha
Sent: Wednesday, January 8, 2020 11:50 AM
To: ProjectReview (DGIF), rr projectreview@dgif.virginia.gov>
Subject: RE: Attn: Ernie Aschenbach - I-495 NEXT - UPC #113414

Ernie,

Please confirm that your agency has no further comment on our determinations regarding this project.

Thank you,

Samantha Stratton | Environmental Analyst Kimley-Horn | 11400 Commerce Park Drive Suite 400 Reston, VA 20191 Direct: 703 462 2706 | www.kimley-horn.com Celebrating 12 years as one of FORTUNE's 100 Best Companies to Work For

From: Stratton, Samantha
Sent: Thursday, November 21, 2019 7:45 PM
To: ProjectReview@dgif.virginia.gov
Cc: Gresham, Teresa <<u>Teresa.Gresham@kimley-horn.com</u>>; Krebs, Meridith <<u>Meridith.Krebs@kimley-horn.com</u>>;
Prunty, Rob <<u>Rob.Prunty@kimley-horn.com</u>>; losco, Robert <<u>robert.iosco@vdot.virginia.gov</u>>
Subject: Attn: Ernie Aschenbach - I-495 NEXT - UPC #113414

Citrix Attachments Expires May 19, 2020	
495_AllVDGIF_111919.pdf	41.1 MB
Download Attachments Samantha Stratton uses Citrix Files to share documents securely.	

On behalf of Robert Iosco (<u>Robert.Iosco@vdot.virginia.gov</u>, (703) 259-2764) at the Virginia Department of Transportation (VDOT):

Ernie,

The Virginia Department of Transportation (VDOT), in coordination with the Federal Highway Administration (FHWA) as the lead federal agency, is evaluating an extension of the Interstate 495 (I-495) Express Lanes between Tysons and the Virginia State Line. We are requesting your comments on potential effects to threatened and endangered species found within the study area in order to complete our technical reports for NEPA documentation. A project description can be seen below:

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Washington Memorial Parkway (GWMP). Additional improvements are anticipated to extend approximately 0.3 miles north of the GWMP to provide a tie-in to the existing road network at the American Legion Memorial Bridge (ALMB). The Build Alternative would retain the existing number of general purpose (GP) lanes in each direction between the I-495/Route 267 interchange and the ALMB, consistent with the configuration of the existing I-495 Express Lanes. Direct access ramps would be provided from the I-495 Express Lanes to the Dulles Toll Road and the GWMP. Access would also be provided between the Express Lanes and GP lanes.

Based on a review of the VDGIF VaFWIS Search Report, there are confirmed observations of the Little-Brown Bat (*Myotis lucifugus*), the Tri-Colored Bat (*Perimyotis subflavus*), and the Wood Turtle (*Glyptemys insculpta*) within the study area. A figure showing the WERMS database results for these species and their proximity to the study area is attached. In addition, winter hibernacula and maternity roost trees were not identified on the NLEB or MYLU & PESU Habitat Mappers, nor were any eagle nests identified on the CCB Bald Eagle Mapper. According to the 2016 Virginia Land Cover Dataset provided by the Virginia Geographic Information Network (VGIN), there are 103 acres of forestland within our Limits of Disturbance (smaller than the study area shown in figures provided) that we are assuming will be impacted. Also attached are the database results and project mapping.

We would appreciate your concurrence on our findings or any other comments DGIF may have.

Thank you,

Samantha Stratton | Environmental Analyst Kimley-Horn | 11400 Commerce Park Drive Suite 400 Reston, VA 20191 Direct: 703 462 2706 | www.kimley-horn.com

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