Photograph Log

Date: 5/18/21

Feature Name: JD_S_009

Photograph Direction North

Comments:

Photograph Direction South

Comments:

Photograph Direction _____

Comments:

Photograph Direction _____

Comments:

STREAM ID RD_S_001	**STREAM NAME** UT of West Neck Creek		
CLIENT Dominion	**PROJECT NAME** Dominion CVOW		
LAT 36.771812 **LONG** -76.035652	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS R. Delahunty		**DATE** 05/17/2021	
WATER TYPE TNW ☐ RPW ☑ NRPW ☐	**FLOW REGIME** Perennial ☐ Intermittent ☑ Ephemeral ☐		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 8.0 ft
Top of Bank Height:
LB 1.0 ft RB 2.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 6.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: East

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material:_____
Culvert Size: _____in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	80
Silt	0.004-0.06 mm	20
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
___ Open ___ Partly shaded
✓ Shaded

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
X Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Photograph Log

Date: 5/17/21

Feature Name: RD_S_001

Photograph Direction North

Comments: View facing upstream.

Photograph Direction South

Comments: View facing downstream.

Photograph Direction _____

Comments:

Photograph Direction _____

Comments:

RD_S_002

STREAM ID RD_S_002	**STREAM NAME** UT of West Neck Creek		
CLIENT Dominion	**PROJECT NAME** Dominion CVOW		
LAT 36.770368 **LONG** -76.042025	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS R. Delahunty		**DATE** 05/18/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 10.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 10.0 ft
Ordinary High Water Mark (Height): 1.0 in
Flow Direction: North

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✓ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes X No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	40
Clay	< 0.004 mm (slick)	60

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	100
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
___ Open ___ Partly shaded
✓ Shaded

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
X Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Photograph Page

Stream ID RD_S_002 Date 05/18/2021

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction South

Comments: Downstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID RD_S_003	**STREAM NAME** UT of West Neck Creek		
CLIENT Dominion	**PROJECT NAME** Dominion CVOW		
LAT 36.770291 **LONG** -76.040534	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS R. Delahunty		**DATE** 05/18/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 15.0 ft RB 15.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 4.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: Northwest

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✓ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	70
Clay	< 0.004 mm (slick)	30

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	100
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
___ Open ___ Partly shaded
✓ Shaded

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
X Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Weak bed/bank shallow drainage feature from RD_W4.

Photograph Page

Stream ID RD_S_003 Date 05/18/2021

Photograph Number 1

Photograph Direction South

Comments: Downstream

Photograph Number 2

Photograph Direction North

Comments: Upstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID RD_S_004	**STREAM NAME** UT of West Neck Creek		
CLIENT Dominion	**PROJECT NAME** Dominion CVOW		
LAT 36.770497 **LONG** -76.043066	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS R. Delahunty		**DATE** 05/18/2021	
WATER TYPE TNW ☐ RPW ☑ NRPW ☐	**FLOW REGIME** Perennial ☑ Intermittent ☐ Ephemeral ☐		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 9.0 ft
Top of Bank Height:
LB 2.5 ft RB 2.5 ft
Water Depth: 6.00 in
Water Width: 5.5 ft
Ordinary High Water Mark (Width): 8.0 ft
Ordinary High Water Mark (Height): 18.0 in
Flow Direction: Northwest

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✓ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes X No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✓ Flowing water

Velocity
___ Fast ___ Moderate
✓ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 100 %
Pool %

Turbidity
___ Clear ✓ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	40
Clay	< 0.004 mm (slick)	60

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	10
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ✓ Residential
✓ ROW ___ Other:

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
X Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Mallard Pair and minnows within stream channel observed.

Photograph Page

Stream ID RD_S_004 Date 05/18/2021

Photograph Number 1

Photograph Direction West

Comments: Downstream

Photograph Number 2

Photograph Direction East

Comments: Upstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID RD_S_005	**STREAM NAME** UNT of West Neck Creek		
CLIENT Dominion	**PROJECT NAME** Dominion CVOW		
LAT 36.77006 **LONG** -76.047125	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS R. Delahunty		**DATE** 05/19/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 6.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 4.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material:_____
Culvert Size: _____in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 100 %
Pool %

Turbidity
___ Clear Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	40
Clay	< 0.004 mm (slick)	60

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	100
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
✓ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
___ Open ✓ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Cattails and sedges were observed within channel.

Photograph Page

Feature ID RD_S_005 Date05/19/2021

Photograph Number 1

Photograph Direction NE

Comments: Upstream

Photograph Number 2

Photograph Direction SW

Comments: Downstream

Photograph Number 3

Photograph Direction East

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID RD S 006	**STREAM NAME** N/A		
CLIENT Dominion	**PROJECT NAME** Dominion CVOW		
LAT 36.770108 **LONG** -76.063184	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS R. Delahunty		**DATE** 05/19/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 3.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: Northeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✓ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	40
Clay	< 0.004 mm (slick)	60

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	100
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
___ Open ___ Partly shaded
✓ Shaded

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
X Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Significant leaf and pine needle litter observed within channel.

Photograph Page

Stream ID _RD_S_006 Date 05/19/2021

Photograph Number 1

Photograph Direction South

Comments: Downstream

Photograph Number 2

Photograph Direction NE

Comments: Upstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID RD_S 007	**STREAM NAME** N/A
CLIENT Dominion	**PROJECT NAME** Dominion CVOW
LAT 36.770073 **LONG** -76.062926	**STATE** Virginia / **COUNTY** Virginia Beach
INVESTIGATORS R. Delahunty	**DATE** 05/19/2021
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 9.0 ft
Top of Bank Height:
LB 3.0 ft RB 3.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 3.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: North

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	100

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	75
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
___ Open ___ Partly shaded
✓ Shaded

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
X Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Significant leaf and pine needle litter observed. Banks were observed with 45 degree slopes.

Photograph Page

Stream ID RD_S_007 Date 05/19/2021

Photograph Number 1

Photograph Direction South

Comments: Dpwnstream

Photograph Number 2

Photograph Direction North

Comments: Upstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID RD-S-008	**STREAM NAME** UNT of West Neck Creek		
CLIENT Dominion	**PROJECT NAME** Dominion CVOW		
LAT 36.770496 **LONG** -76.048759	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS R. Delahunty		**DATE** 05/20/2021	
WATER TYPE TNW ☐ RPW ☑ NRPW ☐	**FLOW REGIME** Perennial ☑ Intermittent ☐ Ephemeral ☐		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 19.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 24.00 in
Water Width: 12.0 ft
Ordinary High Water Mark (Width): 18.0 ft
Ordinary High Water Mark (Height): 36.0 in
Flow Direction: Southwest

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
___ None ✓ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✓ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
✓ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
X Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool 100 %

Turbidity
___ Clear ___ Slightly turbid ✓ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	100
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	20
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
✓ ROW ___ Other:

Canopy Cover
___ Open ✓ Partly shaded
___ Shaded

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
X Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Minnows, mallards, and an eastern painted turtle were observed within the channel.

Photograph Page

Stream ID RD_S_008 Date 05/20/2021

Photograph Number 1

Photograph Direction SW

Comments: Downstream

Photograph Number 2

Photograph Direction North

Comments: Upstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID RD_S_009	**STREAM NAME** West Neck Creek		
CLIENT Dominion	**PROJECT NAME** Dominion CVOW		
LAT 36.770253 **LONG** -76.055783	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS R. Delahunty		**DATE** 05/20/2021	
WATER TYPE TNW ☐ RPW ☑ NRPW ☐	**FLOW REGIME** Perennial ☑ Intermittent ☐ Ephemeral ☐		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 30.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 24.00 in
Water Width: 25.0 ft
Ordinary High Water Mark (Width): 30.0 ft
Ordinary High Water Mark (Height): 48.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✓ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✓ Flowing water

Velocity
___ Fast ___ Moderate
✓ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 100 %
Pool %

Turbidity
___ Clear ___ Slightly turbid ✓ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	100
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	20
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
___ Open ___ Partly shaded
✓ Shaded

Floodplain Width
X Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Photograph Page

Stream ID RD_S_009 Date 05/20/2021

Photograph Number 1

Photograph Direction South

Comments: Downstream

Photograph Number 2

Photograph Direction NW

Comments: Upstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

EF_D_002

STREAM ID EF_D_002	**STREAM NAME** UNK
CLIENT Dominion	**PROJECT NAME** Dominion CVOW
LAT 36.713138 **LONG** -76.168221	**STATE** Virginia / **COUNTY** Chesapeake
INVESTIGATORS E. Foster	**DATE** 05/04/2022
WATER TYPE TNW ☐ RPW ☑ NRPW ☐	**FLOW REGIME** Perennial ☐ Intermittent ☑ Ephemeral ☐

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 10.0 ft
Top of Bank Height:
LB 3.0 ft RB 3.0 ft
Water Depth: 3.00 in
Water Width: 5.0 ft
Ordinary High Water Mark (Width): 7.0 ft
Ordinary High Water Mark (Height): 4.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ✓ Yes ___ No
Culvert Material: Concrete
Culvert Size: 12 in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✓ Flowing water

Velocity
___ Fast ___ Moderate
✓ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 100 %
Pool %

Turbidity
___ Clear ___ Slightly turbid ✓ Turbid
___ Other

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	70
Silt	0.004-0.06 mm	30
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Photograph Page

Stream ID EF_D_002 Date 05/04/2022

Photograph Number 1

Photograph Direction East

Comments: Downstream

Photograph Number 2

Photograph Direction West

Comments: Upstream

Photograph Number 3

Photograph Direction West

Comments: Culvert locate northwest of study area

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID EF_D_004	**STREAM NAME** UNK		
CLIENT Dominion	**PROJECT NAME** Dominion CVOW		
LAT 36.712341 **LONG** -76.16816	**STATE** Pennsylvania	**COUNTY** Chesapeake	
INVESTIGATORS E. Foster		**DATE** 05/04/2022	
WATER TYPE TNW ☐ RPW ☑ NRPW ☐	**FLOW REGIME** Perennial ☐ Intermittent ☑ Ephemeral ☐		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 1.5 ft RB 1.5 ft
Water Depth: 4.00 in
Water Width: 2.0 ft
Ordinary High Water Mark (Width): 2.5 ft
Ordinary High Water Mark (Height): 7.0 in
Flow Direction: North

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
___ None ✓ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material:_____
Culvert Size: _____in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✓ Flowing water

Velocity
___ Fast ___ Moderate
✓ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 100 %
Pool %

Turbidity
___ Clear ___ Slightly turbid ✓ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	70
Silt	0.004-0.06 mm	30
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
X Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Flows into EF_D_002

Photograph Page

Stream ID EF_D_004 Date 05/04/2022

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction South

Comments: Downstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID EF_D_013	**STREAM NAME** UNT to Pocaty River		
CLIENT Dominion	**PROJECT NAME** Dominion CVOW		
LAT 36.700968 **LONG** -76.169879	**STATE** Virginia	**COUNTY** Chesapeake	
INVESTIGATORS E. Foster		**DATE** 05/04/2022	
WATER TYPE TNW ☐ RPW ☑ NRPW ☐	**FLOW REGIME** Perennial ☐ Intermittent ☑ Ephemeral ☐		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 15.0 ft
Top of Bank Height:
LB 3.0 ft RB 3.0 ft
Water Depth: 12.00 in
Water Width: 8.0 ft
Ordinary High Water Mark (Width): 8.0 ft
Ordinary High Water Mark (Height): 12.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
___ None ✓ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
✓ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
✓ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 100 %
Pool %

Turbidity
___ Clear ___ Slightly turbid ✓ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	70
Silt	0.004-0.06 mm	30
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
X Open ___ Partly shaded
___ Shaded

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Photograph Page

Stream ID EF-D-0I3 Date 05/04/2022

Photograph Number 1

Photograph Direction NW

Comments: Upstream

Photograph Number 2

Photograph Direction SE

Comments: Downstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

EF_D_2001

STREAM ID EF_D_2001	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.692134 **LONG** -76.171303	**STATE** Virginia	**COUNTY** Chesapeake	
INVESTIGATORS E. Foster, K. Shepherd		**DATE** 06/07/2022	
WATER TYPE TNW ☐ RPW ☑ NRPW ☐	**FLOW REGIME** Perennial ☐ Intermittent ☑ Ephemeral ☐		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 10.0 ft
Top of Bank Height:
LB 6.0 ft RB 6.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 2.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: No apparent direction

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
___ None ✓ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
✓ Yes ___ No

Culvert Present ✓ Yes ___ No
Culvert Material: concrete
Culvert Size: 24 in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
✓ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	35
Silt	0.004-0.06 mm	30
Clay	< 0.004 mm (slick)	35

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ✓ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Large agricultural ditch/roadside ditch to which ag. ditches drain. Bottom is moist mud and contains mostly duck potato/saggitaria growing in the bottom. Very steep incised slopes. Not thought to be jurisdictional at this time- not holding water at this time.

Photograph Page

Stream EF_D_2001 Date 06/07/2022

Photograph Number 1

Photograph Direction West

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

KH D 002 – UNT

NC DWQ Stream Identification Form Version 4.11

Date: 4/6/2022	**Project/Site:** CVOW	**Latitude:** 36.70294
Evaluator: KH, ED	**County:** City of Chesapeake	**Longitude:** -76.16956
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 16.5	**Stream Determination (circle one)** [Ephemeral] Intermittent Perennial	**Other** *e.g. Quad Name*:

A. Geomorphology (Subtotal = 3)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	[1]	2	3
2. Sinuosity of channel along thalweg	[0]	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	[1]	2	3
4. Particle size of stream substrate	0	[1]	2	3
5. Active/relict floodplain	[0]	1	2	3
6. Depositional bars or benches	[0]	1	2	3
7. Recent alluvial deposits	[0]	1	2	3
8. Headcuts	[0]	1	2	3
9. Grade control	[0]	0.5	1	1.5
10. Natural valley	[0]	0.5	1	1.5
11. Second or greater order channel	[No = 0]		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 6.5)				
12. Presence of Baseflow	0	1	[2]	3
13. Iron oxidizing bacteria	[0]	1	2	3
14. Leaf litter	1.5	1	[0.5]	0
15. Sediment on plants or debris	0	[0.5]	1	1.5
16. Organic debris lines or piles	0	[0.5]	1	1.5
17. Soil-based evidence of high water table?	No = 0		[Yes = 3]	

C. Biology (Subtotal = 7)				
18. Fibrous roots in streambed	[3]	2	1	0
19. Rooted upland plants in streambed	[3]	2	1	0
20. Macrobenthos (note diversity and abundance)	[0]	1	2	3
21. Aquatic Mollusks	[0]	1	2	3
22. Fish	[0]	0.5	1	1.5
23. Crayfish	0	[0.5]	1	1.5
24. Amphibians	0	[0.5]	1	1.5
25. Algae	[0]	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 [Other = 0]			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

STREAM ID KH_D_002	**STREAM NAME** Un-named		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.70294 **LONG** -76.16956	**STATE** Virginia	**COUNTY** Chesapeake	
INVESTIGATORS KH, ED		**DATE** 04/06/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 1.5 ft RB 1.5 ft
Water Depth: 3.00 in
Water Width: 3.0 ft
Ordinary High Water Mark (Width): 3.0 ft
Ordinary High Water Mark (Height): 3.0 in
Flow Direction: Southwest

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material:_____
Culvert Size: _____in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
✓ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
X Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool 100 %

Turbidity
___ Clear ✓ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	100
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	50
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
✓ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Rained the night before, crayfish burrows present, vegetation in channel

Photograph Page

Stream KH_D_002 Date 04/06/2022

Photograph Number 1

Photograph Direction SW

Comments: Downstream

Photograph Number 2

Photograph Direction NE

Comments: Upstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

TC D 1001 – UT

NC DWQ Stream Identification Form Version 4.11

Date: 6/10/2022	**Project/Site:** CVOW	**Latitude:** 36.774437
Evaluator: E.Deck, T. Conard	**County:** Virginia Beach	**Longitude:** -76.033177
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 23.25	**Stream Determination (circle one)** Ephemeral [Intermittent] Perennial	**Other** *e.g. Quad Name*:

A. Geomorphology (Subtotal = 9.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	[2]	3
2. Sinuosity of channel along thalweg	[0]	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	[1]	2	3
4. Particle size of stream substrate	0	[1]	2	3
5. Active/relict floodplain	0	[1]	2	3
6. Depositional bars or benches	0	[1]	2	3
7. Recent alluvial deposits	[0]	1	2	3
8. Headcuts	[0]	1	2	3
9. Grade control	[0]	0.5	1	1.5
10. Natural valley	0	[0.5]	1	1.5
11. Second or greater order channel	No = 0		[Yes = 3]	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 5)				
12. Presence of Baseflow	[0]	1	2	3
13. Iron oxidizing bacteria	0	[1]	2	3
14. Leaf litter	1.5	[1]	0.5	0
15. Sediment on plants or debris	[0]	0.5	1	1.5
16. Organic debris lines or piles	[0]	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		[Yes = 3]	

C. Biology (Subtotal = 8.75)				
18. Fibrous roots in streambed	[3]	2	1	0
19. Rooted upland plants in streambed	[3]	2	1	0
20. Macrobenthos (note diversity and abundance)	0	[1]	2	3
21. Aquatic Mollusks	[0]	1	2	3
22. Fish	[0]	0.5	1	1.5
23. Crayfish	[0]	0.5	1	1.5
24. Amphibians	0	[0.5]	1	1.5
25. Algae	0	[0.5]	1	1.5
26. Wetland plants in streambed	[FACW = 0.75;] OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

STREAM ID TC_D_1001	**STREAM NAME** UT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.774437 **LONG** -76.033177	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS T, Conard, E. Deck		**DATE** 06/10/2022	
WATER TYPE TNW ☐ RPW ☑ NRPW ☐	**FLOW REGIME** Perennial ☐ Intermittent ☑ Ephemeral ☐		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 20.0 ft
Top of Bank Height:
LB 6.0 ft RB 6.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 3.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: South

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
X Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ✓ Yes ___ No
Culvert Material: Concrete
Culvert Size: 48 in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
✓ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 90 %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	25
Silt	0.004-0.06 mm	60
Clay	< 0.004 mm (slick)	15

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	40
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
✓ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
___ Open X Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

tadpoles observed in areas where standing water present. Bed is moist with a few pockets of standing water.

Photograph Page

Stream TC_D_1001 Date 06/10/2022

Photograph Number 1

Photograph Direction South

Comments: Downstream

Photograph Number 2

Photograph Direction North

Comments: Upstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID ED_D_004 ED__ D__ 004		**STREAM NAME** Un-named Trib	
CLIENT Dominion		**PROJECT NAME** CVOW	
LAT 36.691956 **LONG** -76.171270		**STATE** Virginia	**COUNTY** Chesapeake
INVESTIGATORS E. Foster, T. Conard, E. Deck			**DATE** 03/30/2022
WATER TYPE TNW ☐ RPW ☐ NRPW ☑		**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑	

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 10.0 ft
Top of Bank Height:
LB 3.0 ft RB 3.0 ft
Water Depth: 2.00 in
Water Width: 5.0 ft
Ordinary High Water Mark (Width): 6.0 ft
Ordinary High Water Mark (Height): 12.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
✓ Yes ___ No

Culvert Present ✓ Yes ___ No
Culvert Material: Concrete
Culvert Size: 24 in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
✓ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 100 %
Pool %

Turbidity
___ Clear ✓ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	100
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
✓ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Located in the roadside. Likely non-jurisdictional.

Photograph Page

Stream ID ED_D_06 Date 03/30/2022

Photograph Number 1

Photograph Direction East

Comments: Upstream

Photograph Number 2

Photograph Direction West

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID ED_D_1001	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.691168 **LONG** -76.185320	**STATE** Virginia	**COUNTY** Chesapeake	
INVESTIGATORS E.Deck, T. Conard, Kylie Shephard		**DATE** 06/09/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 2.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
✓ Yes ___ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
✓ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ✓ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Swale next to an existing gravel road. Vegetation present through out swale.

Photograph Log

Date: 6/9/22 Feature ID: ED_D_1001

Photograph Number 1

Photograph Direction NW

Comments: Downstream

Photograph Number 2

Photograph Direction SE

Comments: Upstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

EF_D_001

STREAM ID EF_D_001	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.717441 **LONG** -76.167368	**STATE** Virginia	**COUNTY** City of Chesapeake	
INVESTIGATORS E. Foster		**DATE** 04/28/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 5.0 ft
Top of Bank Height:
LB 1.2 ft RB 1.2 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 3.5 ft
Ordinary High Water Mark (Height): 3.0 in
Flow Direction: West

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Maintained non-jurisdictional agricultural ditch draining uplands.

Photograph Log

Date: 4/28/21 Feature ID: EF_D_001

Photograph Number 1

Photograph Direction West

Comments: Downstream

Photograph Number 2

Photograph Direction East

Comments: Upstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

EF_D_003

STREAM ID EF_D_003	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.717441 **LONG** -76.167368	**STATE** Virginia	**COUNTY** City of Chesapeake	
INVESTIGATORS E. Foster		**DATE** 04/28/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 5.0 ft
Top of Bank Height:
LB 1.2 ft RB 1.2 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 3.5 ft
Ordinary High Water Mark (Height): 3.0 in
Flow Direction: West

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Maintained non-jurisdictional agricultural ditch draining uplands.

Photograph Log

Date: 4/28/21 Feature ID: EF_D_003

Photograph Number 1

Photograph Direction West

Comments: Downstream

Photograph Number 2

Photograph Direction East

Comments: Upstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID EF_D_005	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.71343 **LONG** -76.168067	**STATE** Virginia	**COUNTY** City of Chesapeake	
INVESTIGATORS E. Foster		**DATE** 04/29/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 5.0 ft
Top of Bank Height:
LB 1.3 ft RB 1.3 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 1.0 ft
Ordinary High Water Mark (Height): 2.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ✓ Yes ___ No
Culvert Material: Concrete
Culvert Size: 24 in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Ephemeral ditch, disturbed by heavy equipment.

Photograph Log

Date: 4/29/21 Feature ID: EF_D_005

Photograph Number 1

Photograph Direction SE

Comments: Downstream

Photograph Number 2

Photograph Direction NW

Comments: Upstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID EF_D_006	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.688472 **LONG** -76.186024	**STATE** Virginia	**COUNTY** City of Chesapeake	
INVESTIGATORS E. Foster		**DATE** 05/03/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 13.0 ft
Top of Bank Height:
LB 4.0 ft RB 4.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
✓ Yes ___ No

Culvert Present ✓ Yes ___ No
Culvert Material: Concrete
Culvert Size: 36 in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Photograph Log

Date: 5/3/21 Feature ID: EF_D_006

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction South

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID EF_D_007	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.688885 **LONG** -76.187735	**STATE** Virginia	**COUNTY** City of Chesapeake	
INVESTIGATORS E. Foster		**DATE** 05/03/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.5 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: Northeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Maintained non-jurisdictional agricultural ditch

Photograph Log

Date: 5/3/21 Feature ID: EF_D_007

Photograph Number 1

Photograph Direction NE

Comments: Downstream

Photograph Number 2

Photograph Direction South

Comments: Upstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID EF_D_010	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.699330 **LONG** -76.170175	**STATE** Virginia	**COUNTY** City of Chesapeake	
INVESTIGATORS E. Foster		**DATE** 05/04/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 1.2 ft RB 1.2 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 3.0 ft
Ordinary High Water Mark (Height): 2.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
✓ Yes ___ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other: ROADSIDE DITCH

Floodplain Width
___ Wide > 30ft ✓ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Roadside ditch, some emergent vegetation.

Photograph Log

Date: 5/4/21 Feature ID: EF_D_010

Photograph Number 1

Photograph Direction NW

Comments: Upstream

Photograph Number 2

Photograph Direction SE

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID EF_D_011	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.700367 **LONG** -76.169835	**STATE** Virginia	**COUNTY** City of Chesapeake	
INVESTIGATORS E. Foster		**DATE** 05/04/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.5 ft
Top of Bank Height:
LB 1.5 ft RB 1.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: Northeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material:_____
Culvert Size: _____in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Dry Ag ditch, some emergent vegetation.

No photos available

STREAM ID EF_D_012	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.700197 **LONG** -76.170099	**STATE** Virginia	**COUNTY** City of Chesapeake	
INVESTIGATORS E. Foster		**DATE** 05/04/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.5 ft
Top of Bank Height:
LB 1.5 ft RB 1.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: Northeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Dry ag ditch.

Photograph Log

Date: 5/4/21 Feature ID: EF_D_012

Photograph Number 1

Photograph Direction SE

Comments: Downstream

Photograph Number 2

Photograph Direction NW

Comments: Upstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID EF_D_014	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.701214 **LONG** -76.169772	**STATE** Virginia	**COUNTY** City of Chesapeake	
INVESTIGATORS E. Foster		**DATE** 05/04/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.5 ft
Top of Bank Height:
LB 1.5 ft RB 1.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: North

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Photograph Log

Date: 5/4/21 Feature ID: EF_D_014

Photograph Number 1

Photograph Direction North

Comments: Downstream

Photograph Number 2

Photograph Direction South

Comments: Upstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID EF_D_015	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.701892 **LONG** -76.170068	**STATE** Virginia	**COUNTY** City of Chesapeake	
INVESTIGATORS E. Foster		**DATE** 05/04/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.5 ft
Top of Bank Height:
LB 1.5 ft RB 1.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: Northwest

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
✓ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Photograph Log

Date: 5/4/21 Feature ID: EF_D_015

Photograph Number 1

Photograph Direction NE

Comments: Downstream

Photograph Number 2

Photograph Direction SE

Comments: Upstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID EF_D_034	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.710507 **LONG** -76.168225	**STATE** Virginia	**COUNTY** Chesapeake	
INVESTIGATORS E. Foster		**DATE** 04/29/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 5.0 ft
Top of Bank Height:
LB 3.0 ft RB 3.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: South

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Ephemeral abandoned ditch.

STREAM ID EF_D_061	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.770576 **LONG** -76.067173	**STATE** Virginia	**COUNTY** City of Virginia Beach	
INVESTIGATORS E. Foster		**DATE** 05/14/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 6.0 ft
Top of Bank Height:
LB 2.5 ft RB 2.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: Northeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ✓ Residential
___ ROW ___ Other:

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Non jurisdictional ditch begins in easement, emergent vegetation in ditch bottom. Develops emergergent wetland characteristics downstream outside project area. Juncus effuses and carex lurida

Photograph Log

Date: 5/14/21 Feature ID: EF_D_061

Photograph Number 1

Photograph Direction NE

Comments: Downstream

Photograph Number 2

Photograph Direction SE

Comments: Upstream

Photograph Number 3

Photograph Direction

Comments: Substrate

Photograph Number 4

Photograph Direction

Comments:

STREAM ID EF_D_062	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.770538 **LONG** -76.066641	**STATE** Virginia	**COUNTY** City of Virginia Beach	
INVESTIGATORS E. Foster		**DATE** 05/14/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 6.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: Northeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ✓ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Nonjurisdictional man made ditch draining uplands. Some emergent vegetation in channel. Juncus effuses and carex lurida.

Photograph Log

Date: 5/14/21 Feature ID: EF_D_062

Photograph Number 1

Photograph Direction NE

Comments: Downstream

Photograph Number 2

Photograph Direction SW

Comments: Upstream

Photograph Number 3

Photograph Direction

Comments: Substrate

Photograph Number 4

Photograph Direction

Comments:

STREAM ID EF_D_063	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.770498 **LONG** -76.066192	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS E. Foster		**DATE** 05/14/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 8.0 ft
Top of Bank Height:
LB 3.3 ft RB 3.3 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: Northeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
✓ ROW ___ Other:

Canopy Cover
___ Open ✓ Partly shaded
___ Shaded

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Nonjurisdictional ditch man made draining easement uplands. Some carex lurida in channel bottom.

Photograph Log

Date: 5/14/21 Feature ID: EF_D_063

Photograph Number 1

Photograph Direction NE

Comments: Downstream

Photograph Number 2

Photograph Direction SW

Comments: Upstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID EF_D_064	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.770356 **LONG** -76.065873	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS E. Foster		**DATE** 05/14/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 8.0 ft
Top of Bank Height:
LB 3.3 ft RB 3.3 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: Northeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
✓ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ✓ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
___ Open ✓ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Nonjurisdictional ditch draining uplands in power line easement. Juncus effuses and carex lurida in channel bottom.

Photograph Log

Date: 5/14/21 Feature ID: EF_D_064

Photograph Number 1

Photograph Direction NE

Comments: Northeast

Photograph Number 2

Photograph Direction SW

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments: Substrate

Photograph Number 4

Photograph Direction

Comments:

STREAM ID EF_D_065	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.770384 **LONG** -76.065146	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS E. Foster		**DATE** 05/14/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 8.0 ft
Top of Bank Height:
LB 3.0 ft RB 3.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: Northeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material:_____
Culvert Size: _____in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
✓ ROW ___ Other:

Canopy Cover
___ Open ✓ Partly shaded
___ Shaded

Floodplain Width
___ Wide > 30ft ✓ Moderate 15-30ft
___ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Man made ditch draining uplands in power line easement. Juncus effuses and carex lurida in channel bottom.

Photograph Log

Date: 5/14/21 Feature ID: EF_D_065

Photograph Number 1

Photograph Direction NE

Comments: Downstream

Photograph Number 2

Photograph Direction SW

Comments: Upstream

Photograph Number 3

Photograph Direction

Comments: Substrate

Photograph Number 4

Photograph Direction

Comments:

STREAM ID EF_D_2002	**STREAM NAME**		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.692926 **LONG** -76.170902	**STATE** Virginia	**COUNTY** City of Chesapeake	
INVESTIGATORS E. Foster, K. Shepherd		**DATE** 06/07/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 5.0 ft
Top of Bank Height:
LB 2.5 ft RB 2.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 1.5 ft
Ordinary High Water Mark (Height): 4.0 in
Flow Direction: South

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
___ None ✓ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
✓ Yes ___ No

Culvert Present ✓ Yes ___ No
Culvert Material: concrete
Culvert Size: 24 in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	35
Silt	0.004-0.06 mm	30
Clay	< 0.004 mm (slick)	35

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

Floodplain Width
___ Wide > 30ft ✓ Moderate 15-30ft
___ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Ephemeral ag ditch. Dry substrate, cracking and slight algal crust.

Photograph Page

Stream ID EF_D_2002 Date 06/07/2022

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction South

Comments: Downstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID EF_D_2003	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.693124 **LONG** -76.171366	**STATE** Virginia	**COUNTY** Chesapeake	
INVESTIGATORS E. Foster, K. Shephard		**DATE** 06/07/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 5.0 ft
Top of Bank Height:
LB 2.5 ft RB 2.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 1.5 ft
Ordinary High Water Mark (Height): 4.0 in
Flow Direction: South

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
___ None ✓ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
✓ Yes ___ No

Culvert Present ✓ Yes ___ No
Culvert Material: concrete
Culvert Size: 24 in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	35
Silt	0.004-0.06 mm	30
Clay	< 0.004 mm (slick)	35

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

Floodplain Width
___ Wide > 30ft ✓ Moderate 15-30ft
___ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Ephemeral ag ditch. Dry substrate, cracking and slight algal crust.

Photograph Page

Stream ID EF_D_2003 Date 06/07/2022

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction South

Comments: Downstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID EF_D_2005	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.768943 **LONG** -76.074310	**STATE** Virginia	**COUNTY** City of Virginia Beach	
INVESTIGATORS E. Foster, E. Deck, T. Conard		**DATE** 06/15/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: ____
Culvert Size: ____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run % Pool %

Turbidity
___ Clear ___ Slightly turbid Turbid
___ Other____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	30
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")				
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
✓ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
___ Open ✓ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Trees and vegetation growing in bottom of the channel, suspected previous agriculture ditch. No water observed.

Photograph Page

Stream ID EF_D_2005 Date 06/15/2022

Photograph Number 1

Photograph Direction NW

Comments: Upstream

Photograph Number 2

Photograph Direction SE

Comments: Downstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID JA_D_001	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.787471 **LONG** -76.021665	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. Ahn		**DATE** 04/20/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 8.0 ft
Top of Bank Height:
LB 4.0 ft RB 4.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 2.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: Southwest

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material:_____
Culvert Size: _____in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

Canopy Cover
___ Open ___ Partly shaded
✓ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Photograph Log

Date: 4/20/22 Feature ID: JA_D_001

Photograph Number 1

Photograph Direction NE

Comments: Upstream

Photograph Number 2

Photograph Direction SE

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JA_D_001B	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.793357 **LONG** -76.019887	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. Ahn		**DATE** 04/12/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 3.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 4/12/22 Feature ID: JA_D_001B

Photograph Number 1

Photograph Direction NE

Comments: Upstream

Photograph Number 2

Photograph Direction SE

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JA_D_003	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.786034 **LONG** -76.022039	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. Ahn		**DATE** 04/20/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 5.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 4.0 ft
Ordinary High Water Mark (Height): 12.0 in
Flow Direction: Southwest

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

Canopy Cover
___ Open ___ Partly shaded
✓ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 4/20/22 Feature ID: JA_D_003

Photograph Number 1

Photograph Direction NE

Comments: Upstream

Photograph Number 2

Photograph Direction SW

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JA_D_004	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.795007 **LONG** -76.022089	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. Ahn		**DATE** 04/12/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 1.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: South

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed. (No pictures for this feature)

STREAM ID JA_D_005	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.784952 **LONG** -76.023530	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. Ahn		**DATE** 04/21/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 3.0 ft
Ordinary High Water Mark (Height): 12.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✓ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

Canopy Cover
___ Open ___ Partly shaded
✓ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 4/21/22 Feature ID: JA_D_005

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction

Comments:

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JA_D_006	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.784907 **LONG** -76.024479	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. Ahn		**DATE** 04/21/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 3.0 ft
Ordinary High Water Mark (Height): 12.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 4/21/22 Feature ID: JA_D_006

Photograph Number 1

Photograph Direction SE

Comments: Downstream

Photograph Number 2

Photograph Direction

Comments:

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JA_D_007	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.783884 **LONG** -76.024101	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. Ahn		**DATE** 04/21/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 1.0 ft
Ordinary High Water Mark (Height): 2.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Photograph Log

Date: 4/21/22 Feature ID: JA_D_007

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction

Comments:

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JA_D_008	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.783481 **LONG** -76.024590	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. Ahn		**DATE** 04/21/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.5 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 3.0 ft
Ordinary High Water Mark (Height): 12.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 4/21/22 Feature ID: JA_D_008

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction SE

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JA_D_009	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.782922 **LONG** -76.024861	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. Ahn		**DATE** 04/21/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.5 ft
Top of Bank Height:
LB 0.8 ft RB 0.8 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 3.0 ft
Ordinary High Water Mark (Height): 8.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Photograph Log

Date: 4/21/22 Feature ID: JA_D_009

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction SE

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JA_D_010	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.782377 **LONG** -76.025157	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. Ahn		**DATE** 04/21/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 2.0 ft
Ordinary High Water Mark (Height): 12.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 4/21/22 Feature ID: JA_D_010

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction SE

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JA_D_011	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.781869 **LONG** -76.025503	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. Ahn		**DATE** 04/21/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 3.5 ft
Ordinary High Water Mark (Height): 12.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 4/21/22 Feature ID: JA_D_011

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction SE

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JA_D_012	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.781466 **LONG** -76.025990	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. Ahn		**DATE** 04/21/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 2.0 ft
Ordinary High Water Mark (Height): 12.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 4/21/22 Feature ID: JA_D_012

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction SE

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JA_D_013	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.7809237 **LONG** -76.0262957	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. Ahn		**DATE** 04/21/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 2.0 ft
Top of Bank Height:
LB 0.5 ft RB 0.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.5 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 5/11/21 Feature ID: JA_D_013

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction SE

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JA_D_014	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.780566 **LONG** -76.026779	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. Ahn		**DATE** 04/21/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 1.5 ft RB 1.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 1.0 ft
Ordinary High Water Mark (Height): 12.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ✓ Yes ___ No
Culvert Material: Concrete
Culvert Size: 48 in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
___ Open ✓ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed, (no photos of feature, only culvert)

Photograph Log

Date: 4/21/22 Feature ID: JA_D_014

Photograph Number 1

Photograph Direction SE

Comments: Culvert Downstream

Photograph Number 2

Photograph Direction

Comments:

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JA_D_015	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.780174 **LONG** -76.027171	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. Ahn		**DATE** 04/21/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 2.0 ft
Top of Bank Height:
LB 0.5 ft RB 0.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 1.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ✓ Yes ___ No
Culvert Material: Concrete
Culvert Size: 24 in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed, culvert at south end of ditch.

Photograph Log

Date: 4/21/22 Feature ID: JA_D_015

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction South

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JA_D_016	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.779714 **LONG** -76.027562	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. Ahn		**DATE** 04/21/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 2.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 1.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 4/21/22 Feature ID: JA_D_016

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction SE

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JA_D_017	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.77931 **LONG** -76.028021	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. Ahn		**DATE** 04/21/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 1.5 ft RB 1.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 1.0 ft
Ordinary High Water Mark (Height): 18.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 4/21/22 Feature ID: JA_D_017

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction SE

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JA_D_018	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.778951 **LONG** -76.028567	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. Ahn		**DATE** 04/21/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 2.0 ft
Top of Bank Height:
LB 0.5 ft RB 0.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 1.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ✓ Yes ___ No
Culvert Material: Concrete
Culvert Size: 24 in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed, culvert on south end of ditch.

Photograph Log

Date: 4/21/22 Feature ID: JA_D_018

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction SE

Comments: Downstream

Photograph Number 3

Photograph Direction SE

Comments: culvert
Downstream

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JA_D_019	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.778474 **LONG** -76.028904	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. Ahn		**DATE** 04/21/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 1.5 ft
Ordinary High Water Mark (Height): 1.5 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ✓ Yes ___ No
Culvert Material: Concrete
Culvert Size: 24 in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
___ Open ✓ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed, culvert on south end of ditch

Photograph Log

Date: 4/21/22 Feature ID: JA_D_019

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction SE

Comments: Downstream

Photograph Number 3

Photograph Direction SE

Comments: culvert
Downstream

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JA_D_020	**STREAM NAME**		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.787796 **LONG** -76.021664	**STATE** Virginia	**COUNTY**	
INVESTIGATORS J. D'Augustine		**DATE** 04/21/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 8.0 ft
Top of Bank Height:
LB 4.0 ft RB 4.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 2.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: South

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material:_____
Culvert Size: _____in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

Canopy Cover
___ Open ✓ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 4/21/21 Feature ID: JA_D_020

Photograph Number 1

Photograph Direction NW

Comments: Upstream

Photograph Number 2

Photograph Direction SE

Comments: Downstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID JA_D_4	**STREAM NAME** N/A		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.7162469 **LONG** -76.1677438	**STATE** Virginia	**COUNTY** Chesapeake	
INVESTIGATORS J. Ahn		**DATE** 04/21/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 5.0 ft
Top of Bank Height:
LB 18.0 ft RB 18.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 1.0 ft
Ordinary High Water Mark (Height): 12.0 in
Flow Direction: West

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
✓ Yes ___ No

Culvert Present ✓ Yes ___ No
Culvert Material: Concrete
Culvert Size: 12 in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ✓ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Photograph Log

Date: 4/21/22 Feature ID: JA_D_4

Photograph Number 1

Photograph Direction East

Comments: Upstream Culvert

Photograph Number 2

Photograph Direction West

Comments: Downstream Culvert

Photograph Number 3

Photograph Direction East

Comments: Water Stained Leaves

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JC_D_301	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.756842 **LONG** -76.110767	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. Cook		**DATE** 05/31/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 1.00 in
Water Width: 1.0 ft
Ordinary High Water Mark (Width): 1.0 ft
Ordinary High Water Mark (Height): 1.0 in
Flow Direction: South

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
✓ Yes ___ No

Culvert Present ___ Yes ✓ No
Culvert Material: Concrete
Culvert Size: 12 in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
✓ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ✓ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

No photographs

STREAM ID Jcros_D_006	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.792571 **LONG** -76.019127	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS Jcros		**DATE** 05/19/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 0.5 ft RB 0.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: South

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
___ Open ✓ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 5/19/21 Feature ID: Jcros_D_006

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction South

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID Jcros_D_007	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.792751 **LONG** -76.018488	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS Jcros		**DATE** 05/19/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 0.5 ft RB 0.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: South

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 5/19/21 Feature ID: Jcros_D_007

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction South

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID Jcros_D_008	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.792739 **LONG** -76.017797	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS Jcros		**DATE** 05/19/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 0.5 ft RB 0.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: South

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ✓ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 5/19/21 Feature ID: Jcros_D_008

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction South

Comments: Downstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID Jcros_D_009	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 39.792025 **LONG** -76.017145	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS Jcros		**DATE** 05/19/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 0.5 ft RB 0.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: South

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 5/19/21 Feature ID: Jcros_D_009

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction South

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID Jcros_D_010	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.792142 **LONG** -76.016548	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS Jcros		**DATE** 05/19/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 0.5 ft RB 0.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: South

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ✓ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
___ Open ✓ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed (no photos for this feature)

STREAM ID Jcros_D_011	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.791504 **LONG** -76.018004	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS Jcros		**DATE** 05/19/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 0.5 ft RB 0.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: West

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✓ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
___ Open ___ Partly shaded
✓ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 5/19/21 Feature ID: Jcros_D_011

Photograph Number 1

Photograph Direction East

Comments: Upstream

Photograph Number 2

Photograph Direction West

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JD_D_001	**STREAM NAME**		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.688985 **LONG** -76.186967	**STATE** Virginia	**COUNTY**	
INVESTIGATORS J. Augustine		**DATE** 05/03/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.5 ft
Top of Bank Height:
LB 36.0 ft RB 36.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: Southwest

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Photograph Log

Date: 5/3/21 Feature ID: JD_D_001

Photograph Number 1

Photograph Direction NE

Comments: Upstream

Photograph Number 2

Photograph Direction SW

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JD_D_013	**STREAM NAME** N/A		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.767442 **LONG** -76.082171	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. D'Augustine		**DATE** 05/11/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 5.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: East

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ✓ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
___ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Photograph Log

Date: 5/11/21 Feature ID: JD_D_013

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction South

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JD_D_014	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.766675 **LONG** -76.082816	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. D'Augustine		**DATE** 05/11/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 5.0 ft
Top of Bank Height:
LB 0.2 ft RB 0.2 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: East

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ✓ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Photograph Log

Date: 5/11/21

Feature Name: JD_D_014

Photograph Direction North

Comments: Upstream.

Photograph Direction South

Comments: Downstream.

Photograph Direction _____

Comments:

Photograph Direction _____

Comments:

STREAM ID JD_D_016	**STREAM NAME** N/A		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.765056 **LONG** -76.085348	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. D'Augustine		**DATE** 05/11/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: East

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ✓ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Photograph Log

Date: 5/11/21 Feature ID: JD_D_016

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction South

Comments: Downstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID JD_D_017	**STREAM NAME** N/a		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.764286 **LONG** -76.086467	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. D'Augustine		**DATE** 05/11/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: East

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Photograph Log

Date: 5/11/21 Feature ID: JD_D_017

Photograph Number 1

Photograph Direction NE

Comments: Downstream

Photograph Number 2

Photograph Direction SW

Comments: Upstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JD_D_018	**STREAM NAME** N/A		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.763822 **LONG** -76.087297	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. D'Augustine		**DATE** 05/11/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 1.0 ft
Top of Bank Height:
LB 0.5 ft RB 0.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: Southwest

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ✓ Yes ___ No
Culvert Material: Concrete
Culvert Size: 24 in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Photograph Log

Date: 5/11/21 Feature ID: JD_D_018

Photograph Number 1

Photograph Direction East

Comments: Culvert Upstream

Photograph Number 2

Photograph Direction East

Comments: Culvert Upstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID JD_D_019	**STREAM NAME** N/a		
CLIENT Dominion	**PROJECT NAME** Dominion		
LAT 36.762774 **LONG** -76.088512	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. D'Augustine		**DATE** 05/11/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.5 ft
Ordinary High Water Mark (Height): 1.0 in
Flow Direction: East

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ✓ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Photograph Log

Date: 5/11/21 Feature ID: JD_D_019

Photograph Number 1

Photograph Direction NE

Comments: Downstream

Photograph Number 2

Photograph Direction SW

Comments: Upstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JD_D_020	**STREAM NAME** N/A		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.761615 **LONG** -76.090416	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. D'Augustine		**DATE** 05/11/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: East

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ✓ Yes ___ No
Culvert Material: Concrete
Culvert Size: 12 in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✓ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Photograph Log

Date: 5/11/21 Feature ID: JD_D_020

Photograph Number 1

Photograph Direction NW

Comments: Upstream

Photograph Number 2

Photograph Direction SE

Comments: Downstream

Photograph Number 3

Photograph Direction NE

Comments: culvert

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JD_D_053	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.768875 **LONG** -76.075374	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS J. D'Augustine		**DATE** 05/11/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 0.5 ft RB 0.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: East

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
___ Open ___ Partly shaded
✓ Shaded

Floodplain Width
___ Wide > 30ft ✓ Moderate 15-30ft
___ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Photograph Log

Date: 5/11/21 Feature ID: JD_D_053

Photograph Number 1

Photograph Direction NW

Comments: Upstream

Photograph Number 2

Photograph Direction East

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JD_D_054	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.76077 **LONG** -76.094217	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS JD, EF		**DATE** 05/14/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 8.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: South

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	20
Silt	0.004-0.06 mm	40
Clay	< 0.004 mm (slick)	40

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

Floodplain Width
___ Wide > 30ft ✓ Moderate 15-30ft
___ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 5/14/21 Feature ID: JD_D_054

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction South

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JD_D_055	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.760691 **LONG** -76.095179	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS JD, EF		**DATE** 05/14/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 10.0 ft
Top of Bank Height:
LB 3.0 ft RB 3.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: South

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	30
Silt	0.004-0.06 mm	40
Clay	< 0.004 mm (slick)	30

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ✓ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

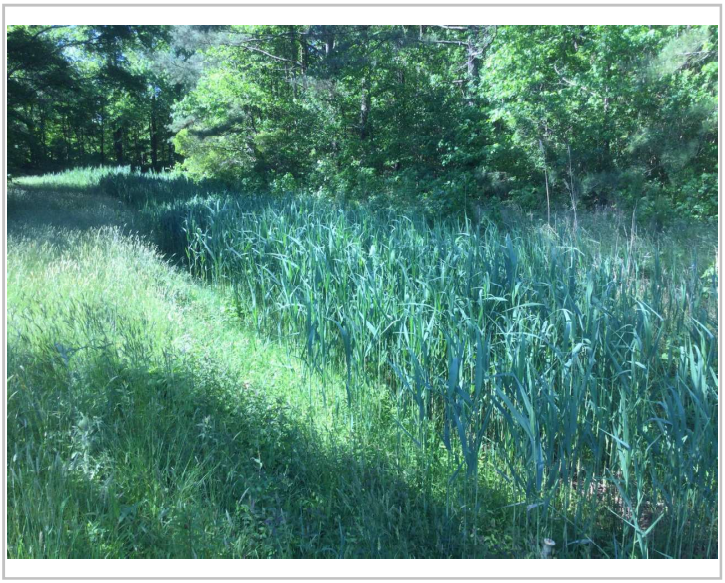
Photograph Log

Date: 5/14/21 Feature ID: JD_D_055

Photograph Number 1

Photograph Direction North

Comments: Upstream



Photograph Number 2

Photograph Direction South

Comments: Downstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID JD_D_056	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.76052 **LONG** -76.096203	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS JD, EF		**DATE** 05/14/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 10.0 ft
Top of Bank Height:
LB 3.0 ft RB 3.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: South

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
✓ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 99

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	33
Silt	0.004-0.06 mm	33
Clay	< 0.004 mm (slick)	33

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

Floodplain Width
___ Wide > 30ft ✓ Moderate 15-30ft
___ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 5/14/21 Feature ID: JD_D_056

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction South

Comments: Downstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID JD_D_057	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.76025 **LONG** -76.097259	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS JD, EF		**DATE** 05/14/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 10.0 ft
Top of Bank Height:
LB 3.0 ft RB 3.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: South

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 99

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	33
Silt	0.004-0.06 mm	33
Clay	< 0.004 mm (slick)	33

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 5/14/21 Feature ID: JD_D_057

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction South

Comments: Downstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID JD_D_058	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.760105 **LONG** -76.098535	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS JD, EF		**DATE** 05/14/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 8.0 ft
Top of Bank Height:
LB 3.0 ft RB 3.0 ft
Water Depth: 1.00 in
Water Width: 4.0 ft
Ordinary High Water Mark (Width): 4.0 ft
Ordinary High Water Mark (Height): 1.0 in
Flow Direction: Southwest

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✓ Flowing water

Velocity
___ Fast ___ Moderate
✓ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 95 %
Pool 5 %

Turbidity
___ Clear ✓ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 99

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	33
Silt	0.004-0.06 mm	33
Clay	< 0.004 mm (slick)	33

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ✓ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 5/14/21 Feature ID: JD_D_058

Photograph Number 1

Photograph Direction NE

Comments: Upstream

Photograph Number 2

Photograph Direction SW

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JD_D_059	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.774542 **LONG** -76.033535	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS JD, EF		**DATE** 05/14/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: _____

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
___ None ✓ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 99

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	33
Silt	0.004-0.06 mm	33
Clay	< 0.004 mm (slick)	33

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
___ Open ___ Partly shaded
✓ Shaded

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 5/14/21 Feature ID: JD_D_059

Photograph Number 1

Photograph Direction East

Comments: Downstream

Photograph Number 2

Photograph Direction West

Comments: Upstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JD_D_060	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.774951 **LONG** -76.033148	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS JD, EF		**DATE** 05/14/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: East

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
___ None ✓ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	40
Silt	0.004-0.06 mm	20
Clay	< 0.004 mm (slick)	40

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
___ Open ___ Partly shaded
✓ Shaded

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed
No photos available

STREAM ID JD_D_061	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.775344 **LONG** -76.032693	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS JD, EF		**DATE** 05/14/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: East

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
___ None ✓ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	40
Silt	0.004-0.06 mm	40
Clay	< 0.004 mm (slick)	20

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
___ Open ___ Partly shaded
✓ Shaded

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed. No photographs.

STREAM ID JD_D_062	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.775743 **LONG** -76.032246	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS JD, EF		**DATE** 05/14/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: East

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
___ None ✓ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 99

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	33
Silt	0.004-0.06 mm	33
Clay	< 0.004 mm (slick)	33

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
___ Open ___ Partly shaded
✓ Shaded

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed. No photographs.

STREAM ID JD_D_063	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.776148 **LONG** -76.031654	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS JD, EF		**DATE** 05/14/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: East

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
___ None ✓ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 99

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	33
Silt	0.004-0.06 mm	33
Clay	< 0.004 mm (slick)	33

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
___ Open ___ Partly shaded
✓ Shaded

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed. No photographs.

STREAM ID JD_D_064	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.776498 **LONG** -76.031147	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS JD, EF		**DATE** 05/14/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: East

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
___ None ✓ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 99

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	33
Silt	0.004-0.06 mm	33
Clay	< 0.004 mm (slick)	33

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
___ Open ___ Partly shaded
✓ Shaded

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed. No photographs.

STREAM ID JD_D_065	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.777049 **LONG** -76.030549	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS JD, EF		**DATE** 05/14/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 2.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: East

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
___ None ✓ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 99

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	33
Silt	0.004-0.06 mm	33
Clay	< 0.004 mm (slick)	33

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 5/14/21 Feature ID: JD_D_065

Photograph Number 1

Photograph Direction East

Comments: Downstream

Photograph Number 2

Photograph Direction West

Comments: Upstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID JD_D_066	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.777471 **LONG** -76.029968	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS JD, EF		**DATE** 05/14/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 2.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 99

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	33
Silt	0.004-0.06 mm	33
Clay	< 0.004 mm (slick)	33

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed. No photographs.

STREAM ID JD_D_067	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.777929 **LONG** -76.029452	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS JD, EF		**DATE** 05/14/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 2.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: Southeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 99

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	33
Silt	0.004-0.06 mm	33
Clay	< 0.004 mm (slick)	33

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✓ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed. No photographs.

STREAM ID JD_D_083	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.7703232 **LONG** -76.044031	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS JD		**DATE** 05/19/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 5.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 1.00 in
Water Width: 1.0 ft
Ordinary High Water Mark (Width): 1.0 ft
Ordinary High Water Mark (Height): 1.0 in
Flow Direction: South

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
___ None ✓ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✓ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
✓ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 99

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	33
Silt	0.004-0.06 mm	33
Clay	< 0.004 mm (slick)	33

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
___ Open ✓ Partly shaded
___ Shaded

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed. No photographs.

STREAM ID JD_D_086	**STREAM NAME** N/A		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.760757 **LONG** -76.093312	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS JD, EF		**DATE** 05/14/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 8.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: South

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material:_____
Culvert Size: _____in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	50
Clay	< 0.004 mm (slick)	50

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ✓ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

No macroinvertebrates observed

Photograph Log

Date: 5/14/21 Feature ID: JD_D_086

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction South

Comments: Downstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID KH_D_006	**STREAM NAME** Unnamed agricultural ditch		
CLIENT Dominion	**PROJECT NAME** CVOW Commercial		
LAT 36.704013 **LONG** -76.169811	**STATE** Virginia	**COUNTY** Chesapeake	
INVESTIGATORS K. Hoisington, K. Burdick		**DATE** 04/08/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 5.0 ft
Top of Bank Height:
LB 1.5 ft RB 1.5 ft
Water Depth: 4.00 in
Water Width: 4.0 ft
Ordinary High Water Mark (Width): 4.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: Northeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✓ Flowing water

Velocity
___ Fast ___ Moderate
✓ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 100 %
Pool %

Turbidity
✓ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	100
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	50
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

Canopy Cover
___ Open ✓ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Page

Stream ID KH_D_006 Date 04/08/2022

Photograph Number 1

Photograph Direction West

Comments: Upstream

Photograph Number 2

Photograph Direction East

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID KH_D_007	**STREAM NAME** Unnamed agricultural ditch		
CLIENT Dominion	**PROJECT NAME** CVOW Commercial		
LAT 36.704443 **LONG** -76.169798	**STATE** Virginia	**COUNTY** Chesapeake	
INVESTIGATORS K. Hoisington, K. Burdick		**DATE** 04/08/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 2.5 ft RB 2.5 ft
Water Depth: 4.00 in
Water Width: 2.0 ft
Ordinary High Water Mark (Width): 2.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: Northeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✓ Flowing water

Velocity
___ Fast ___ Moderate
✓ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 100 %
Pool %

Turbidity
✓ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	100
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	20
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Page

Stream ID KH_D_007 Date 04/08/2022

Photograph Number 1

Photograph Direction West

Comments: Upstream

Photograph Number 2

Photograph Direction East

Comments: Downstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID KH_D_008	**STREAM NAME** Unnamed agricultural ditch		
CLIENT Dominion	**PROJECT NAME** CVOW Commercial		
LAT 36.704872 **LONG** -76.169781	**STATE** Virginia	**COUNTY** Chesapeake	
INVESTIGATORS K. Hoisington, K. Burdick		**DATE** 04/08/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 4.00 in
Water Width: 3.0 ft
Ordinary High Water Mark (Width): 3.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: Northeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✓ Flowing water

Velocity
___ Fast ___ Moderate
✓ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 100 %
Pool %

Turbidity
✓ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	100
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	40
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

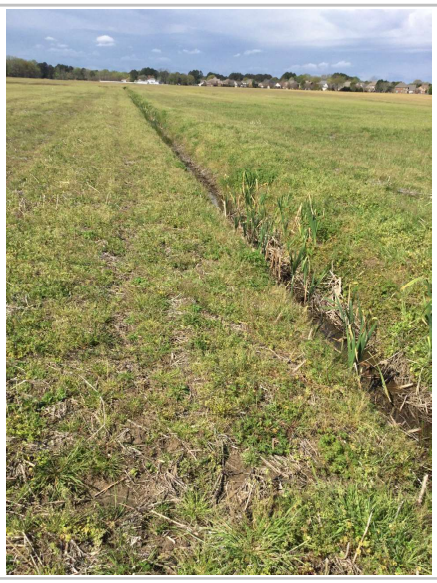
Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Frogs, rooted plants in bed

Photograph Page

Stream ID KH_D_008 Date 04/08/2022



Photograph Number 1

Photograph Direction West

Comments: Upstream

Photograph Number 2

Photograph Direction East

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID KH_D_009	**STREAM NAME** Unnamed agricultural ditch		
CLIENT Dominion	**PROJECT NAME** CVOW Commercial		
LAT 36.705326 **LONG** -76.169697	**STATE** Virginia	**COUNTY** Chesapeake	
INVESTIGATORS K. Hoisington, K. Burdick		**DATE** 04/08/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 2.5 ft
Top of Bank Height:
LB 3.0 ft RB 3.0 ft
Water Depth: 2.00 in
Water Width: 1.0 ft
Ordinary High Water Mark (Width): 1.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: Northeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✓ Flowing water

Velocity
___ Fast ___ Moderate
✓ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 100 %
Pool %

Turbidity
✓ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	100
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	60
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Frogs, crayfish burrows, rooted plants in bed

Photograph Page

Stream ID KH_D_009 Date 04/08/2022

Photograph Number 1

Photograph Direction West

Comments: Upstream

Photograph Number 2

Photograph Direction East

Comments: Downstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID KH_D_010	**STREAM NAME** Unnamed agricultural ditch		
CLIENT Dominion	**PROJECT NAME** CVOW Commercial		
LAT 36.705687 **LONG** -76.170202	**STATE** Virginia	**COUNTY** Chesapeake	
INVESTIGATORS K. Hoisington, K. Burdick		**DATE** 04/08/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 6.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 4.00 in
Water Width: 4.0 ft
Ordinary High Water Mark (Width): 4.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: Northeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
___ None ✓ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✓ Flowing water

Velocity
___ Fast ___ Moderate
✓ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 100 %
Pool %

Turbidity
✓ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	100
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	60
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Frogs, crayfish burrows, rooted plants in bed. Path of ditch has been altered by overgrowth of trees and shrubs on north bank

Photograph Page

Stream ID KH_D_010 Date 04/08/2022

Photograph Number 1

Photograph Direction East

Comments: Downstream

Photograph Number 2

Photograph Direction West

Comments: Upstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID KH_D_011	**STREAM NAME** Unnamed agricultural ditch		
CLIENT Dominion	**PROJECT NAME** CVOW Commercial		
LAT 36.705687 **LONG** -76.170202	**STATE** Virginia	**COUNTY** Chesapeake	
INVESTIGATORS K. Hoisington, K. Burdick		**DATE** 04/08/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 7.0 ft
Top of Bank Height:
LB 3.0 ft RB 3.0 ft
Water Depth: 2.00 in
Water Width: 2.0 ft
Ordinary High Water Mark (Width): 2.5 ft
Ordinary High Water Mark (Height): 4.0 in
Flow Direction: Northeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✓ Flowing water

Velocity
✓ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 100 %
Pool %

Turbidity
✓ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 40

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	10
Sand	0.06-2mm (gritty)	30
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	5
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

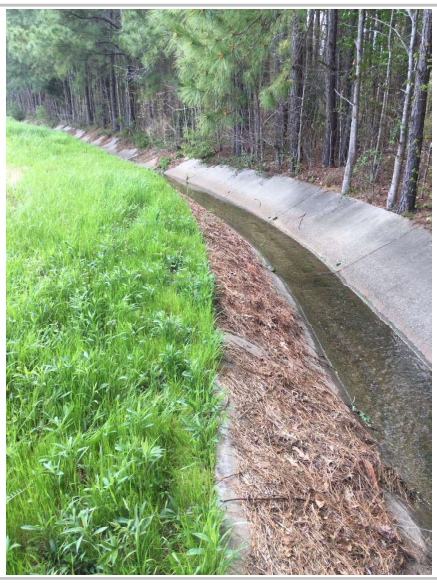
Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Concrete channel running along tree line. Some sediment and gravel accumulated in channel bed. Small fish present.

Photograph Page

Stream ID KH_D_011 Date 04/08/2022



Photograph Number 1

Photograph Direction West

Comments: Upstream

Photograph Number 2

Photograph Direction East

Comments: Downstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID KH_D_012	**STREAM NAME** Unnamed agricultural ditch		
CLIENT Dominion	**PROJECT NAME** CVOW Commercial		
LAT 36.70941 **LONG** -76.169087	**STATE** Virginia	**COUNTY** Chesapeake	
INVESTIGATORS K. Hoisington, K. Burdick		**DATE** 04/08/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 6.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 4.00 in
Water Width: 2.0 ft
Ordinary High Water Mark (Width): 4.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: Northeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✓ Flowing water

Velocity
___ Fast ___ Moderate
✓ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 100 %
Pool %

Turbidity
✓ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	100
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	60
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Frogs, crayfish burrows, rooted plants in bed.

Photograph Page

Stream ID KH_D_012 Date 04/08/2022

Photograph Number 1

Photograph Direction West

Comments: Upstream

Photograph Number 2

Photograph Direction East

Comments: Downstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID KH_D_013	**STREAM NAME** Unnamed agricultural ditch		
CLIENT Dominion	**PROJECT NAME** CVOW Commercial		
LAT 36.708957 **LONG** -76.16915	**STATE** Virginia	**COUNTY** Chesapeake	
INVESTIGATORS K. Hoisington, K. Burdick		**DATE** 04/08/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 2.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 2.00 in
Water Width: 1.0 ft
Ordinary High Water Mark (Width): 1.0 ft
Ordinary High Water Mark (Height): 5.0 in
Flow Direction: Northeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✓ Flowing water

Velocity
___ Fast ___ Moderate
✓ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 75 %
Pool 25 %

Turbidity
✓ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	100
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	20
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Frogs, crayfish burrows, rooted plants in bed.

Photograph Page

Stream ID KH_D_013 Date 04/08/2022

Photograph Number 1

Photograph Direction West

Comments: Upstream

Photograph Number 2

Photograph Direction East

Comments: Downstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID KH_D_014	**STREAM NAME** Unnamed agricultural ditch		
CLIENT Dominion	**PROJECT NAME** CVOW Commercial		
LAT 36.708439 **LONG** -76.169247	**STATE** Virginia	**COUNTY** Chesapeake	
INVESTIGATORS K. Hoisington, K. Burdick		**DATE** 04/08/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 2.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 2.00 in
Water Width: 1.0 ft
Ordinary High Water Mark (Width): 1.0 ft
Ordinary High Water Mark (Height): 4.0 in
Flow Direction: Northeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✓ Flowing water

Velocity
___ Fast ___ Moderate
✓ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 90 %
Pool 10 %

Turbidity
___ Clear ✓ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	100
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	20
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Frogs, tadpoles, algae, rooted plants in bed.

Photograph Page

Stream ID KH_D_014 Date 04/08/2022

Photograph Number 1

Photograph Direction West

Comments: Upstream

Photograph Number 2

Photograph Direction East

Comments: Downstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID KH_D_015	**STREAM NAME** Unnamed agricultural ditch		
CLIENT Dominion	**PROJECT NAME** CVOW Commercial		
LAT 36.707996 **LONG** -76.169303	**STATE** Virginia	**COUNTY** Chesapeake	
INVESTIGATORS K. Hoisington, K. Burdick		**DATE** 04/08/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 3.00 in
Water Width: 3.0 ft
Ordinary High Water Mark (Width): 3.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: Northeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✓ Flowing water

Velocity
___ Fast ___ Moderate
✓ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 50 %
Pool 50 %

Turbidity
___ Clear ✓ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	100
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	40
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Frogs, rooted plants in bed. H2S sheen present throughout with faint odor in places of standing water.

Photograph Page

Stream ID KH_D_015 Date 04/08/2022

Photograph Number 1

Photograph Direction West

Comments: Upstream

Photograph Number 2

Photograph Direction East

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID KH D 016	**STREAM NAME** Unnamed agricultural ditch		
CLIENT Dominion	**PROJECT NAME** CVOW Commercial		
LAT 36.707486 **LONG** -76.169373	**STATE** Virginia	**COUNTY** Chesapeake	
INVESTIGATORS K. Hoisington, K. Burdick		**DATE** 04/08/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 1.00 in
Water Width: 1.0 ft
Ordinary High Water Mark (Width): 1.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: Northeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✓ Flowing water

Velocity
___ Fast ___ Moderate
✓ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 100 %
Pool 0 %

Turbidity
___ Clear ✓ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	100
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	20
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Infested with invasive bladder snails, tadpoles and algae present

Photograph Page

Stream ID KH_D_016 Date 04/08/2022

Photograph Number 1

Photograph Direction West

Comments: Upstream

Photograph Number 2

Photograph Direction East

Comments: Downstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID KH_D_017	**STREAM NAME** Unnamed agricultural ditch		
CLIENT Dominion	**PROJECT NAME** CVOW Commercial		
LAT 36.707009 **LONG** -76.169451	**STATE** Virginia	**COUNTY** Chesapeake	
INVESTIGATORS K. Hoisington, K. Burdick		**DATE** 04/08/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 1.5 ft RB 1.5 ft
Water Depth: 2.00 in
Water Width: 1.0 ft
Ordinary High Water Mark (Width): 1.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: Northeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✓ Flowing water

Velocity
___ Fast ___ Moderate
✓ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 100 %
Pool 0 %

Turbidity
✓ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	100
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	20
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Faint H2S odor. Tadpoles and crayfish present. Rooted plants in streambed.

Photograph Page

Stream ID KH_D_017 Date 04/08/2022

Photograph Number 1

Photograph Direction West

Comments: Upstream

Photograph Number 2

Photograph Direction East

Comments: Downstream

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

STREAM ID KH_D_018	**STREAM NAME** Unnamed agricultural ditch		
CLIENT Dominion	**PROJECT NAME** CVOW Commercial		
LAT 36.706517 **LONG** -76.169515	**STATE** Virginia	**COUNTY** Chesapeake	
INVESTIGATORS K. Hoisington, K. Burdick		**DATE** 04/08/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 1.5 ft RB 3.0 ft
Water Depth: 4.00 in
Water Width: 3.0 ft
Ordinary High Water Mark (Width): 3.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: Northeast

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
___ None ✓ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✓ Flowing water

Velocity
___ Fast ___ Moderate
✓ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 100 %
Pool %

Turbidity
✓ Clear ___ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	100
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	40
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Iron oxidizing bacteria Rooted plants and algae in streambed.

Photograph Page

Stream ID KH_D_018 Date 04/08/2022

Photograph Number 1

Photograph Direction West

Comments: Upstream

Photograph Number 2

Photograph Direction East

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID RD_D_002	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.772771 **LONG** -76.034824	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS RD		**DATE** 05/17/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 6.0 ft
Top of Bank Height:
LB 0.5 ft RB 0.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: South

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✓ Flowing water

Velocity
___ Fast ___ Moderate
✓ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 100 %
Pool %

Turbidity
___ Clear ✓ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 99

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	33
Silt	0.004-0.06 mm	33
Clay	< 0.004 mm (slick)	33

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
___ Open ___ Partly shaded
✓ Shaded

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 5/17/21 Feature ID: RD_D_002

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction South

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID RD_D_004	**STREAM NAME** UNT		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.7703786 **LONG** -76.0633042	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS RD		**DATE** 05/19/2021	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 8.0 ft
Top of Bank Height:
LB 3.0 ft RB 3.0 ft
Water Depth: 6.00 in
Water Width: 4.0 ft
Ordinary High Water Mark (Width): 4.5 ft
Ordinary High Water Mark (Height): 8.0 in
Flow Direction: South

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
___ None ✓ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ___ Yes ✓ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✓ Flowing water

Velocity
___ Fast ___ Moderate
✓ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 100 %
Pool %

Turbidity
___ Clear ✓ Slightly turbid ___ Turbid
___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 99

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	33
Silt	0.004-0.06 mm	33
Clay	< 0.004 mm (slick)	33

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	20
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
✓ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✓ Narrow <15ft

Canopy Cover
___ Open ✓ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

None observed

Photograph Log

Date: 5/19/21 Feature ID: RD_D_004

Photograph Number 1

Photograph Direction North

Comments: Upstream

Photograph Number 2

Photograph Direction South

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID TC D 002	**STREAM NAME**
CLIENT Dominion	**PROJECT NAME** CVOW
LAT 36.769106 **LONG** -76.073638	**STATE** Virginia **COUNTY** Virginia
INVESTIGATORS T. Conard, E. Foster	**DATE** 05/31/2022
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 5.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 0.50 in
Water Width: 1.0 ft
Ordinary High Water Mark (Width): 3.0 ft
Ordinary High Water Mark (Height): 2.0 in
Flow Direction: Northwest

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
✓ Yes ___ No

Culvert Present ✓ Yes ___ No
Culvert Material: metal
Culvert Size: 24 in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
✓ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 5 %
Pool 95 %

Turbidity
___ Clear ✓ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	35
Silt	0.004-0.06 mm	35
Clay	< 0.004 mm (slick)	30

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✓ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ✓ Residential
✓ ROW ___ Other:

Canopy Cover
___ Open ___ Partly shaded
✓ Shaded

Floodplain Width
___ Wide > 30ft ✓ Moderate 15-30ft
___ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Small ephemeral ditch, some areas have ponded water, most of the ditch is completely dry. To east becomes completely dry, to west contains some ponded water near junction with TC_D_001.

Photograph Page

Stream ID TC_D_002 Date 05/31/2022

Photograph Number 1

Photograph Direction NW

Comments: Facing upstream

Photograph Number 2

Photograph Direction SE

Comments: Facing downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

STREAM ID TC_D_005	**STREAM NAME** un-named Trib		
CLIENT Dominion	**PROJECT NAME** CVOW		
LAT 36.760538, **LONG** -76.101784	**STATE** Virginia	**COUNTY** Virginia Beach	
INVESTIGATORS T. Conard, E. Deck		**DATE** 06/02/2022	
WATER TYPE TNW ☐ RPW ☐ NRPW ☑	**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 12.0 ft
Top of Bank Height:
LB 3.5 ft RB 3.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 0.0 ft
Ordinary High Water Mark (Height): 0.0 in
Flow Direction: Southwest

Sinuosity ✓ Low ___ Medium ___ High

Gradient ✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✓ Yes ___ No

Within Roadside Ditch
___ Yes ✓ No

Culvert Present ✓ Yes ___ No
Culvert Material: Concrete
Culvert Size: 12 in

FLOW CHARACTERISTICS

Water Present
✓ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 0

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✓ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
✓ ROW ___ Other:

Canopy Cover
✓ Open ___ Partly shaded
___ Shaded

Floodplain Width
___ Wide > 30ft ✓ Moderate 15-30ft
___ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

No water present. Vegetation growing on side slopes and bottom of feature.

Photograph Log

Date: 6/2/22 Feature ID: TC_D_005

Photograph Number 1

Photograph Direction NE

Comments: Upstream

Photograph Number 2

Photograph Direction SW

Comments: Downstream

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

APPENDIX D-2: WETLAND DATASHEETS AND PHOTOLOG

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Chesapeake Sampling Date: 4/11/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: ED_W_001-001B

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.6866792361667 Long: -76.1763295866667 Datum: NAD83

Soil Map Unit Name: Acredale silt loam, 0-1% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Area located within an open depressional area within a powerline right-of-way. Standing water was observed within the mapped wetland. Area identified as a PEM wetland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 4
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: ED_W_001-001B

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5' radius)			
1. *Juncus effusus*	50	Yes	OBL
2. *Phalaris arundinacea*	25	Yes	OBL
3. *Carex lurida*	20	No	OBL
4. *Alternanthera philoxeroides*	15	No	OBL
5. *Ludwigia alternifolia*	5	No	OBL
6. *Lonicera japonica*	5	No	FACU
7. *Rubus argutus*	5	No	FAC
8.			
9.			
10.			
11.			
	125 =Total Cover		
50% of total cover: 63	20% of total cover: 25		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: ED_W_001-001B

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 4/1	85	7.5YR 4/6	15	C	PL	Loamy/Clayey	Silty Clay Loam

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR, P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) (**MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
X Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ____

Remarks:

Photograph Page

Feature ID: ED_W_001-001B Date 04/11/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Chesapeake Sampling Date: 4/11/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: ED_W_001-001B_UP

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Plain Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.687619177 Long: -76.1824252735 Datum: NAD83

Soil Map Unit Name: Acredale silt loam, 0-1% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Area located within a plain within a powerline right-of-way.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: ED_W_001-001B_UP

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus taeda*	40	Yes	FAC
2. *Alnus serrulata*	35	Yes	FACW
3.			
4.			
5.			
6.			
	75	=Total Cover	
50% of total cover: 38		20% of total cover:	15
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 5' radius)			
1. *Quercus alba*	5	Yes	FACU
2. *Solidago canadensis*	5	Yes	FACU
3. *Toxicodendron radicans*	5	Yes	FAC
4. *Rumex crispus*	5	Yes	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20	=Total Cover	
50% of total cover: 10		20% of total cover:	4
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

_X_ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: ED_W_001-001B_UP

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/3	90	7.5YR 5/6	10	C	PL	Loamy/Clayey	Silty Clay Loam

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

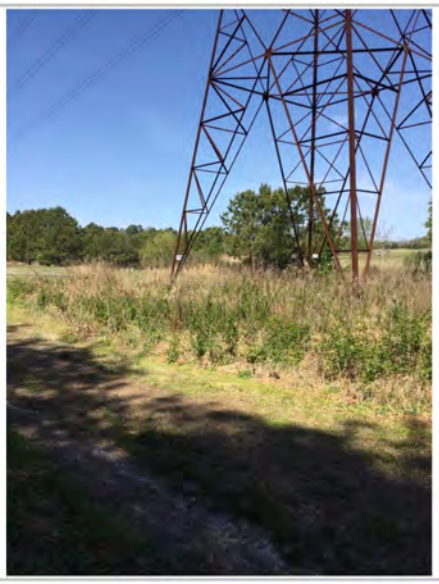
Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Photograph Page

Feature ID: ED_W_001-001B_UP Date 04/11/2022



Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Chesapeake Sampling Date: 06/09/2022

Applicant/Owner: Dominion State: VA Sampling Point: ED_W_1001

Investigator(s): E.Deck, K. Shephard, T. Conard Section, Township, Range:

Landform (hillside, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0-1%

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.691775 Long: -76.191623 Datum: WGS84

Soil Map Unit Name: Acredale silt loam, 0 to 1 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes x No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes X No ____	**within a Wetland?** **Yes** X **No** ____
Wetland Hydrology Present?	Yes X No ____	

Remarks:
Disturbed easement

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15) **(LRR U)**
- ____ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ____ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 0	
Water Table Present?	Yes ____	No X	Depth (inches): ____	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____	**Wetland Hydrology Present?** **Yes** X **No** ____

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

Remarks:
Standing water present in tire ruts.

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

Sampling Point: ED_W_1001

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30FT)			
1. *Carex lurida*	10	Yes	OBL
2. *Juncus effusus*	15	Yes	OBL
3. *Typha latifolia*	5	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30 =Total Cover		
50% of total cover: 15	20% of total cover: 6		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	30 (A)		30 (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)
mowed and maintained ROW. Appears recently mowed.

SOIL

Sampling Point: ED_W_1001

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Sandy	silty sand
6-20	10YR 4/1	95	10YR 4/6	5	C	PL	Loamy/Clayey	Prominent redox concentrations

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Log

Date: 6/9/22 Feature ID: ED_W_1001

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Chesapeake Sampling Date: 06/09/2022

Applicant/Owner: Dominion State: VA Sampling Point: ED_W_1001 & 1002_UP

Investigator(s): E.DeckK.Shephard, T.Conard Section, Township, Range:

Landform (hillside, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-1%

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.691930 Long: -76.192427 Datum: WGS84

Soil Map Unit Name: Arcedale silt loam, 0 to 1 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No x	
Wetland Hydrology Present?	Yes ____	No x	

Remarks:
Disturbed area, maintained for easemeent access.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes ____	No x	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No x	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** x

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

Remarks:
No hydrology indicators noted.

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

Sampling Point: ED_W_1001 & 1002_UP

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liquidambar styraciflua*	10	Yes	FAC
2. *Pinus taeda*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	20	=Total Cover	
50% of total cover: 10		20% of total cover: 4	
Sapling/Shrub Stratum (Plot size: 30ft)			
1. *Morella cerifera*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	5	=Total Cover	
50% of total cover: 3		20% of total cover: 1	
Herb Stratum (Plot size: 30ft)			
1. *Rubus pensilvanicus*	10	No	FAC
2. *Juncus effusus*	10	No	OBL
3. *Smilax rotundifolia*	10	No	FAC
4. *Grass sp.*	40	Yes	ND
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	70	=Total Cover	
50% of total cover: 35		20% of total cover: 14	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	0	x 2 =	0
FAC species	45	x 3 =	135
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	55 (A)		145 (B)

Prevalence Index = B/A = 2.64

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)
Vegetation is disturbed due to maintenance of the easement

SOIL

Sampling Point: ED_W_1001 & 1002_UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	7.5YR 3/2	100					Sandy	silty sand

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** x

Remarks:

Photograph Log

Date: 6/9/22 Feature ID: ED_W_1001-1002_UP

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Chesapeake Sampling Date: 06/09/2022
Applicant/Owner: Dominion State: Va Sampling Point: ED_W_1002
Investigator(s): E. Deck, K. Shephard, T. Conard Section, Township, Range:
Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 0-2%
Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.691853 Long: -76.192901 Datum: WGS84
Soil Map Unit Name: Munden fine sandy loam, 0 to 2 percent slopes NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

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

Sampling Point: ED_W_1002

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30)			
1. *Eleocharis obtusa*	30	Yes	OBL
2. *Diodia virginiana*	35	Yes	FACW
3. *Carex lurida*	10	No	OBL
4. *Juncus effusus*	10	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	85 =Total Cover		
50% of total cover: 43	20% of total cover: 17		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	35	x 2 =	70
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		120 (B)

Prevalence Index = B/A = 1.41

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: ED_W_1002

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-20	7.5YR 3/2	100					Sandy	Silty Sand

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:
Fill present

Photograph Log

Date: 6/9/22 Feature ID: ED_W_1002

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Chesapeake Sampling Date: 4/28/2021

Applicant/Owner: Dominion State: VA Sampling Point: EF_W_001_PEM

Investigator(s): Emily Foster, Debbie Painter Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.720744 Long: -76.166528 Datum: WGS84

Soil Map Unit Name: Dorovan-Belhaven complex, 0 to 1 percent slopes, frequently flooded NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation x, Soil x, or Hydrology x significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Disturbed existing powerline easement. Becomes inacessible to the NE due to inundated conditions.

Observed Classifications:

Cowardin: PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- x Surface Water (A1)
- x High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes x No _____ Depth (inches): 0-4

Water Table Present? Yes x No _____ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes x No _____ Depth (inches): 0

Wetland Hydrology Present? Yes x No _____

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

Remarks:

Inundated portion of existing powerline easement.

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

Sampling Point: EF_W_001_PEM

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Typha latifolia, Broad-Leaf Cat-Tail	75	Yes	OBL
2. Saururus cernuus, Lizard's-Tail	10	No	OBL
3. Carex vulpinoidea, Common Fox Sedge	5	No	FACW
4. Juncus effusus, Lamp Rush	5	No	OBL
5. Sagittaria latifolia, Duck-Potato	5	No	OBL
6. Solidago sp.	5	No	ND
7.			
8.			
9.			
10.			
11.			
	105 = Total Cover		
50% of total cover: 52.5	20% of total cover: 21		
Woody Vine Stratum (Plot size: 30 ft)			
1. Rubus pensilvanicus, Pennsylvania Blackberry	10	Yes	FAC
2.			
3.			
4.			
5.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	95	x 1 =	95
FACW species	5	x 2 =	10
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		135 (B)

Prevalence Index = B/A = 1.23

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

x 2 - Dominance Test is >50%

x 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes x No ___

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

SOIL

Sampling Point: EF_W_001_PEM

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10yr 3/1	100%					Silty clay loam	No H2S odor, top layer of muck
6-12	7.5yr 4/4	100%					Loamy sand	Metallic odor
12-18	7.5yr 4/4	100%					Loamy sand	

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- x 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- x Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** x **No** _____

Remarks:

Disturbed soils from heavy equipment access to powerline easement.

Photograph Log

Date: 4/28/21

Feature Name: EF_W_001_PEM

Photograph Number _____

Photograph Direction South

Comments: View of PEM wetland to the South.

Photograph Number _____

Photograph Direction North

Comments: View of PEM wetland to the North.

Photograph Number _____

Photograph Direction East

Comments: View of PEM wetland to the East.

Photograph Number _____

Photograph Direction West

Comments: View of PEM wetland to the West.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Chesapeake Sampling Date: 4/28/2021

Applicant/Owner: Dominion State: VA Sampling Point: EF_W_001_PFO

Investigator(s): Emily Foster, Debbie Painter Section, Township, Range:

Landform (hillslope, terrace, etc.): Flatwoods Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.720143 Long: -76.166504 Datum: WGS84

Soil Map Unit Name: Munden loamy fine sand, 2 to 8 percent slopes NWI classification: PFO1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes x	No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x	No _____	
Wetland Hydrology Present?	Yes x	No _____	

Remarks:

Forested wetland located on E side of powerline easement, and continuing outside of the survey area.

Observed Classifications:

Cowardin: PFO

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- x Surface Water (A1)
- x High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- x Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes x	No _____	Depth (inches): 0-4
Water Table Present?	Yes x	No _____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes x	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes x No _____

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

Remarks:

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

Sampling Point: EF_W_001_PFO

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum, Red Maple	20	Yes	FAC
2. Fraxinus pennsylvanica, Green Ash	15	Yes	FACW
3. Ulmus americana, American Elm	10	No	FAC
4. Liquidambar styraciflua, Sweet-Gum	10	No	FAC
5. Taxodium distichum, Southern Bald-Cypress	5	No	OBL
6.			
	60 = Total Cover		
50% of total cover: 30	20% of total cover: 12		
Sapling Stratum (Plot size: 30 ft)			
1. Ulmus americana, American Elm	5	Yes	FAC
2. Liquidambar styraciflua, Sweet-Gum	5	Yes	FAC
3. Acer rubrum, Red Maple	5	Yes	FAC
4.			
5.			
6.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3		
Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Glyceria septentrionalis, Floating Manna Grass	25	Yes	OBL
2. Osmundastrum cinnamomeum, Cinnamon Fern	5	No	FACW
3. Arundinaria gigantea, Giant Cane	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	35 = Total Cover		
50% of total cover: 17.5	20% of total cover: 7		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	25	x 2 =	50
FAC species	55	x 3 =	165
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		245 (B)

Prevalence Index = B/A = 2.23

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

x 2 - Dominance Test is >50%

x 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes x No ___

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

SOIL

Sampling Point: EF_W_001_PFO

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10yr 2/1	100%					Muck	
6-18	10yr 2/1	100%					Loamy sand	

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- x 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** x **No** _____

Remarks:

Photograph Log

Date: 4/28/21

Feature Name: EF_W_001_PFO

Photograph Number _____

Photograph Direction East

Comments: View of PFO wetland to the East.

Photograph Number _____

Photograph Direction North

Comments: View of PFO wetland to the North.

Photograph Number _____

Photograph Direction West

Comments: View of PFO wetland to the West.

Photograph Number _____

Photograph Direction South

Comments: View of PFO wetland to the South.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Chesapeake Sampling Date: 4/28/2021

Applicant/Owner: Dominion State: VA Sampling Point: EF_W_001_UP

Investigator(s): Emily Foster, Debbie Painter Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Convex Slope (%): 0-5

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.720057 Long: -76.166515 Datum: WGS84

Soil Map Unit Name: Munden loamy fine sand, 2 to 8 percent slopes NWI classification: PFO1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No x	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes _____	No x	
Wetland Hydrology Present?	Yes _____	No x	

Remarks:

Observed Classifications:

Cowardin: Upland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No x

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

Remarks:

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

Sampling Point: EF_W_001_UP

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liriodendron tulipifera, Tuliptree	30	Yes	FACU
2. Acer rubrum, Red Maple	25	Yes	FAC
3. Liquidambar styraciflua, Sweet-Gum	10	No	FAC
4.			
5.			
6.			
	65 = Total Cover		
50% of total cover: 32.5	20% of total cover: 13		
Sapling Stratum (Plot size: 30 ft)			
1. Acer rubrum, Red Maple	10	Yes	FAC
2. Liriodendron tulipifera, Tuliptree	10	Yes	FACU
3. Oxydendrum arboreum, Sourwood	5	Yes	FACU
4.			
5.			
6.			
	25 = Total Cover		
50% of total cover: 12.5	20% of total cover: 5		
Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Lonicera japonica, Japanese Honeysuckle	15	Yes	FACU
2. Stellaria media, Common Chickweed	10	Yes	FACU
3. Parthenocissus quinquefolia, Virginia-Creeper	10	Yes	FACU
4. Podophyllum peltatum, May-Apple	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40 = Total Cover		
50% of total cover: 20	20% of total cover: 8		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	45	x 3 =	135
FACU species	85	x 4 =	340
UPL species	0	x 5 =	0
Column Totals:	130 (A)		475 (B)

Prevalence Index = B/A = 3.65

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ____ No x

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

SOIL

Sampling Point: EF_W_001_UP

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	2.5y 2.5/1	100%					Silty loam	
6-12	10yr 4/3	80%	10yr 8/3	20%	C	PL	Sandy clay loam	
12-18	7.5yr 6/2	100%					Sand	

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** x

Remarks:

Photograph Log

Date: 4/28/21

Feature Name: EF_W_001_UP

Photograph Number _____

Photograph Direction South

Comments:

Photograph Number _____

Photograph Direction East

Comments:

Photograph Number _____

Photograph Direction North

Comments:

Photograph Number _____

Photograph Direction West

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Chesapeake Sampling Date: 4/28/2021

Applicant/Owner: Dominion State: VA Sampling Point: EF_W_002_PEM

Investigator(s): Emily Foster, Debbie Painter Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.718325 Long: -76.16744 Datum: WGS84

Soil Map Unit Name: Tomotley-Bertie complex, 0 to 2 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Recently disturbed by heavy equipment in power line easement. Torn up soil and recently mowed vegetation.

Observed Classifications:

Cowardin: PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- x Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- x Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): _____

Wetland Hydrology Present? Yes x No _____

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

Remarks:

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

Sampling Point: EF_W_002_PEM

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Solidago sp.	15	Yes	ND
2. Juncus effusus, Lamp Rush	15	Yes	OBL
3. Carex lurida, Shallow Sedge	15	Yes	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	45 = Total Cover		
50% of total cover: 22.5	20% of total cover: 9		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	30 (A)		30 (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

x 2 - Dominance Test is >50%

x 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes x No ___

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

Very recently disturbed vegetation, much is covered my recently disturbed soil.

SOIL

Sampling Point: EF_W_002_PEM

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5yr 4/3	75%	7.5yr 5/6	25%	C	PL	Clay loam	
6-12	10yr 5/2	75%	7.5yr 4/6	25%	C	PL	Clay loam	
12-18	10yr 4/2	65%	7.5 yr 5/8	35%	C	PL	Clay loam	

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- x Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- x Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** x **No** _____

Remarks:

Severely disturbed soils from heavy equipment

Photograph Log

Date: 4/28/21

Feature Name: EF_W_002_PEM

Photograph Number _____

Photograph Direction North

Comments: View of PEM wetland to the North.

Photograph Number _____

Photograph Direction South

Comments: View of PEM wetland to the South.

Photograph Number _____

Photograph Direction West

Comments: View of PEM wetland to the West.

Photograph Number _____

Photograph Direction East

Comments: View of PEM wetland to the East.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Chesapeake Sampling Date: 4/28/2021

Applicant/Owner: Dominion State: VA Sampling Point: EF_W_002_UP

Investigator(s): Emily Foster, Debbie Painter Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Convex Slope (%): 0-5

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.718196 Long: -76.167443 Datum: WGS84

Soil Map Unit Name: Tomotley-Bertie complex, 0 to 2 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No x	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes _____	No x	
Wetland Hydrology Present?	Yes _____	No x	

Remarks:
Fallow agriculture field

Observed Classifications:
Cowardin: Upland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No x

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

Remarks:

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

Sampling Point: EF_W_002_UP

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Trifolium pratense, Red Clover	15	Yes	FACU
2. Ranunculus sardous, Hairy Buttercup	15	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30 = Total Cover		
50% of total cover: 15	20% of total cover: 6		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	30 (A)		105 (B)

Prevalence Index = B/A = 3.50

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ___ No x

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

Agriculture field,currently fallow

SOIL

Sampling Point: EF_W_002_UP

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	2.5y 4/4	100%					Silty loam	
12-18	2.5y 5/4	100%					Clay loam	

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** x

Remarks:

Agriculture field,currently fallow

Photograph Log

Date: 4/28/21

Feature Name: EF_W_002_UP

Photograph Number _____

Photograph Direction South

Comments:

Photograph Number _____

Photograph Direction North

Comments:

Photograph Number _____

Photograph Direction West

Comments:

Photograph Number _____

Photograph Direction East

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Chesapeake Sampling Date: 5/29/2021

Applicant/Owner: Dominion State: VA Sampling Point: EF_W_003

Investigator(s): Emily Foster, Debbie Painter Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.713501 Long: -76.168335 Datum: WGS84

Soil Map Unit Name: Acredale silt loam, 0 to 1 percent slopes NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation x, Soil x, or Hydrology x significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Disturbed fallow agricultural field. Drained by ditches, some small emergent areas.

Observed Classifications:

Cowardin: PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- x Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- x Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): _____

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): _____

Wetland Hydrology Present? Yes x No _____

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

Remarks:

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

Sampling Point: EF_W_003

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Juncus articulatus, Joint-Leaf Rush	15	Yes	OBL
2. Juncus effusus, Lamp Rush	15	Yes	OBL
3. Ranunculus sardous, Hairy Buttercup	10	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40 = Total Cover		
50% of total cover: 20	20% of total cover: 8		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	40 (A)		60 (B)

Prevalence Index = B/A = 1.50

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

x 2 - Dominance Test is >50%

x 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes x No ___

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

SOIL

Sampling Point: EF_W_003

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 4/1	85%	10yr 5/8	15%	C	PL	Clay loam	no odor
6-12	7.5yr 4/1	85%	2.5yr 4/6	15%	C	PL	Clay loam	
12-18	10yr 3/2	80%	2.5yr 4/6	20%	C	M	Clay	

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
x Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** x **No** _____

Remarks:

Photograph Log

Date: 5/29/21

Feature Name: EF_W_003

Photograph Number _____

Photograph Direction East

Comments: View of PEM wetland to the East.

Photograph Number _____

Photograph Direction North

Comments: View of PEM wetland to the North.

Photograph Number _____

Photograph Direction South

Comments: View of PEM wetland to the South.

Photograph Number _____

Photograph Direction West

Comments: View of PEM wetland to the West.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Chesapeake Sampling Date: 4/29/2021

Applicant/Owner: Dominion State: VA Sampling Point: EF_W_003_UP

Investigator(s): Emily Foster, Debbie Painter Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0-3

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.711832 Long: -76.168321 Datum: WGS84

Soil Map Unit Name: Tomotley-Bertie complex, 0 to 2 percent slopes NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation x, Soil x, or Hydrology x significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____ No x	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes _____ No x	

Remarks:

No hydrologic indicators. Fallow field, effectively drained by ditches

Observed Classifications:

Cowardin: Upland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): _____

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): _____

Wetland Hydrology Present? Yes _____ No x

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

Remarks:

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

Sampling Point: EF_W_003_UP

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Ranunculus sardous, Hairy Buttercup	40	Yes	FAC
2. Lolium perenne, Perennial Rye Grass	35	Yes	FACU
3. Trifolium repens, White Clover	15	No	FACU
4. Trifolium dubium, Suckling Clover	10	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	40	x 3 =	120
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals:	100 (A)		360 (B)

Prevalence Index = B/A = 3.60

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ___ No x

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

SOIL

Sampling Point: EF_W_003_UP

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	97%	7.5YR 4/6	3%	C	PL	Sandy clay loam	
6-12	10yr 5/1	70%	7.5yr 5/8	30%	C	M	Loamy clay	
12-18	10yr 4/1	60%	7.5yr 5/8	40%	C	M	Clay	

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
x Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** x **No** _____

Remarks:

Relic hydric soil coloring likely from prior to drained conditions. If ditches were abandoned this area would potentially develop wetland conditions.

Photograph Log

Date: 4/29/21

Feature Name: EF_W_003_UP

Photograph Number _____

Photograph Direction West

Comments:

Photograph Number _____

Photograph Direction East

Comments:

Photograph Number _____

Photograph Direction South

Comments:

Photograph Number _____

Photograph Direction North

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Chesapeake Sampling Date: 5/4/2021

Applicant/Owner: Dominion State: VA Sampling Point: EF_W_004

Investigator(s): Emily Foster, Kristen Walls, Chelsea Bajek Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0-3

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.700803 Long: -76.169978 Datum: WGS84

Soil Map Unit Name: Tomotley-Nimmo complex, 0 to 1 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation x, Soil x, or Hydrology x significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Fallow agricultural field drained by a series of ditches. Some emergent wetland areas apparent, adjacent to or in vicinity of ditches with surface connection.

Observed Classifications:

Cowardin: PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- x Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- x Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): _____

Wetland Hydrology Present? Yes x No _____

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

Remarks:

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

Sampling Point: EF_W_004

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Juncus effusus, Lamp Rush	75	Yes	OBL
2. Ranunculus sardous, Hairy Buttercup	10	No	FAC
3. Juncus articulatus, Joint-Leaf Rush	10	No	OBL
4. Carex lurida, Shallow Sedge	5	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		120 (B)

Prevalence Index = B/A = 1.20

Hydrophytic Vegetation Indicators:

- [x] 1 - Rapid Test for Hydrophytic Vegetation
- [x] 2 - Dominance Test is >50%
- [x] 3 - Prevalence Index is ≤3.0[1]
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes [x] No [ ]

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

SOIL

Sampling Point: EF_W_004

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10yr 4/2	100%					Loamy sand	
6-18	10yr 4/1	95%	10yr 5/6	5%	C	PL	Loamy sand	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
x Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** x **No** _____

Remarks:

Soil is disturbed and compacted, fallow agricultural field. Some shallow surface connection to adjacent ditch.

Photograph Log

Date: 5/4/21

Feature Name: EF_W_004

Photograph Number _____

Photograph Direction East

Comments: View of a PEM wetland to the East.

Photograph Number _____

Photograph Direction South

Comments: View of a PEM wetland to the South.

Photograph Number _____

Photograph Direction West

Comments: View of a PEM wetland to the West.

Photograph Number _____

Photograph Direction North

Comments: View of a PEM wetland to the North.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Chesapeake Sampling Date: 5/4/2021

Applicant/Owner: Dominion State: VA Sampling Point: EF_W_004-005-006 UP

Investigator(s): Emily Foster, Kristen Walls, Chelsea Bajek Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0-3

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.700915 Long: -76.169961 Datum: WGS84

Soil Map Unit Name: Tomotley-Nimmo complex, 0 to 1 percent slopes NWI classification: R4SBCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation x, Soil x, or Hydrology x significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No x	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes _____	No x	
Wetland Hydrology Present?	Yes _____	No x	

Remarks:

Fallow agricultural field drained by a series of ditches.

Observed Classifications:

Cowardin: Upland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No x

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

Remarks:

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

Sampling Point: EF_W_004-005-006UP

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Poa pratensis, Kentucky Blue Grass	30	Yes	FACU
2. Lolium perenne, Perennial Rye Grass	15	Yes	FACU
3. Juncus articulatus, Joint-Leaf Rush	10	No	OBL
4. Ranunculus sardous, Hairy Buttercup	10	No	FAC
5. Juncus effusus, Lamp Rush	5	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
	70 = Total Cover		
50% of total cover: 35	20% of total cover: 14		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	45	x 4 =	180
UPL species	0	x 5 =	0
Column Totals:	70 (A)		225 (B)

Prevalence Index = B/A = 3.21

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ____ No x

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

SOIL

Sampling Point: EF_W_004-005-006 UP

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10yr 3/3	100%					Loamy sand	

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** x

Remarks:

Photograph Log

Date: 5/4/2021

Feature Name: EF_W_004-005-006 UP

Photograph Number _____

Photograph Direction West

Comments:

Photograph Number _____

Photograph Direction East

Comments:

Photograph Number _____

Photograph Direction South

Comments:

Photograph Number _____

Photograph Direction North

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Chesapeake Sampling Date: 5/4/2021

Applicant/Owner: Dominion State: VA Sampling Point: EF_W_005

Investigator(s): Emily Foster, Kristen Walls, Chelsea Bajek Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0-3

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.701229 Long: -76.169645 Datum: WGS84

Soil Map Unit Name: Tomotley-Nimmo complex, 0 to 1 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation x, Soil x, or Hydrology x significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Fallow agriculturak field with some emergent wetland areas adjacent to ditches.

Observed Classifications:

Cowardin: PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- x Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- x Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): _____

Wetland Hydrology Present? Yes x No _____

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

Remarks:

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

Sampling Point: EF_W_005

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Juncus effusus, Lamp Rush	75	Yes	OBL
2. Ranunculus sardous, Hairy Buttercup	10	No	FAC
3. Juncus articulatus, Joint-Leaf Rush	10	No	OBL
4. Carex lurida, Shallow Sedge	5	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		120 (B)

Prevalence Index = B/A = 1.20

Hydrophytic Vegetation Indicators:

- [x] 1 - Rapid Test for Hydrophytic Vegetation
- [x] 2 - Dominance Test is >50%
- [x] 3 - Prevalence Index is ≤3.0[1]
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes [x] No [ ]

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

SOIL

Sampling Point: EF_W_005

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10yr 4/2	100%					Loamy sand	
6-18	10yr 4/1	95%	10yr 5/6	5%	C	PL	Loamy sand	

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** x **No** _____

Remarks:

Soil is disturbed and compacted, fallow agricultural field. Shallow surface connection to adjacent ditch.

Photograph Log

Date: 5/4/21

Feature Name: EF_W_005

Photograph Number _____

Photograph Direction East

Comments: View of a PEM wetland to the East.

Photograph Number _____

Photograph Direction South

Comments: View of a PEM wetland to the South.

Photograph Number _____

Photograph Direction North

Comments: View of a PEM wetland to the North.

Photograph Number _____

Photograph Direction West

Comments: View of a PEM wetland to the West.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Chesapeake Sampling Date: 5/4/2021

Applicant/Owner: Dominion State: VA Sampling Point: EF_W_006

Investigator(s): Emily Foster, Kristen Walls, Chelsea Bajek Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0-3

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.701513 Long: -76.170192 Datum: WGS84

Soil Map Unit Name: Tomotley-Nimmo complex, 0 to 1 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation x, Soil x, or Hydrology x significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Agricultural field being drained by a series of ditches. Emergent wetlands adjacent to ditches with shallow surface connection.

Observed Classifications:

Cowardin: PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- x Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- x Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): _____

Wetland Hydrology Present? Yes x No _____

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

Remarks:

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

Sampling Point: EF_W_006

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Juncus effusus, Lamp Rush	55	Yes	OBL
2. Typha latifolia, Broad-Leaf Cat-Tail	10	No	OBL
3. Ranunculus sardous, Hairy Buttercup	10	No	FAC
4. Juncus articulatus, Joint-Leaf Rush	10	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	85 = Total Cover		
50% of total cover: 42.5	20% of total cover: 17		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	75	x 1 =	75
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		105 (B)

Prevalence Index = B/A = 1.24

Hydrophytic Vegetation Indicators:

- [x] 1 - Rapid Test for Hydrophytic Vegetation
- [x] 2 - Dominance Test is >50%
- [x] 3 - Prevalence Index is ≤3.0[1]
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes [x] No [ ]

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

SOIL

Sampling Point: EF_W_006

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10yr 4/2	100%					Loamy sand	
6-18	10yr 4/1	95%	10yr 5/6	5%	C	PL	Loamy sand	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
x Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** x **No** _____

Remarks:

Soil is disturbed and compacted, fallow agricultural field.

Photograph Log

Date: 5/4/21

Feature Name: EF_W_006

Photograph Number _____

Photograph Direction North

Comments: View of a PEM wetland to the North.

Photograph Number _____

Photograph Direction South

Comments: View of a PEM wetland to the South.

Photograph Number _____

Photograph Direction East

Comments: View of a PEM wetland to the East.

Photograph Number _____

Photograph Direction West

Comments: View of a PEM wetland to the West.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Chesapeake Sampling Date: 5/5/2021

Applicant/Owner: Dominion State: VA Sampling Point: EF_W_008_PEM

Investigator(s): Emily Foster, Kristen Walls Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 0-5

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.74263741 Long: 76.14043379 Datum: WGS84

Soil Map Unit Name: 2: Acredale-Chapanoke complex, 0 to 1 percent slopes NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Disturbed emergent wetland in existing powerline easement.

Observed Classifications:

Cowardin: PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- x Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- x Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): _____

Wetland Hydrology Present? Yes x No _____

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

Remarks:

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

Sampling Point: EF_W_008_PEM

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Typha latifolia, Broad-Leaf Cat-Tail	25	Yes	OBL
2. Carex lurida, Shallow Sedge	25	Yes	OBL
3. Juncus effusus, Lamp Rush	15	No	OBL
4. Arundinaria tecta, Switch Cane	15	No	FACW
5. Carex lonchocarpa, Southern Long Sedge	5	No	OBL
6. Solidago sp.	5	No	ND
7. Acer rubrum, Red Maple	5	No	FAC
8.			
9.			
10.			
11.			
	90 = Total Cover		
50% of total cover: 47.5	20% of total cover: 19		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	15	x 2 =	30
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		115 (B)

Prevalence Index = B/A = 1.28

Hydrophytic Vegetation Indicators:

x 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes x No ___

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

SOIL

Sampling Point: EF_W_008_PEM

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10yr 4/2	95%	10yr 4/6	5%	C	PL	Clay loam	
6-18	10yr 5/2	90%	10yr 4/6	10%	C	PL	Silty clay loam	

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
x Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** x **No** _____

Remarks:

Photograph Log

Date: 5/3/21

Feature Name: EF_W_008 PEM

Photograph Number _____

Photograph Direction West

Comments: None.

Photograph Number _____

Photograph Direction East

Comments: None.

Photograph Number _____

Photograph Direction South

Comments:

Photograph Number _____

Photograph Direction North

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Chesapeake Sampling Date: 5/5/2021

Applicant/Owner: Dominion State: VA Sampling Point: EF_W_008_PFO

Investigator(s): Emily Foster, Kristen Walls Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0-5

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.74136876 Long: -76.14361945 Datum: WGS84

Soil Map Unit Name: 2: Acredale-Chapanoke complex, 0 to 1 percent slopes NWI classification: PFO1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Large PFO complex associated with Gum Swamp. To NE and SW of existing powerline easement. Upland point is JD_W_004 UP.

Observed Classifications:

Cowardin: PFO

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- x Surface Water (A1)
- x High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes x	No _____	Depth (inches): 0-1
Water Table Present?	Yes x	No _____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes x	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes x No _____

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

Remarks:

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

Sampling Point: EF_W_008_PFO

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum, Red Maple	35	Yes	FAC
2. Salix nigra, Black Willow	35	Yes	OBL
3.			
4.			
5.			
6.			
	70 = Total Cover		
50% of total cover: 35	20% of total cover: 14		
Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. Acer rubrum, Red Maple	25	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	25 = Total Cover		
50% of total cover: 12.5	20% of total cover: 5		
Herb Stratum (Plot size: 30 ft)			
1. Arundinaria gigantea, Giant Cane	15	Yes	FACW
2. Saururus cernuus, Lizard's-Tail	10	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	25 = Total Cover		
50% of total cover: 12.5	20% of total cover: 5		
Woody Vine Stratum (Plot size: 30 ft)			
1. Smilax rotundifolia, Horsebrier	10	Yes	FAC
2.			
3.			
4.			
5.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	15	x 2 =	30
FAC species	70	x 3 =	210
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	130 (A)		285 (B)

Prevalence Index = B/A = 2.19

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

x 2 - Dominance Test is >50%

x 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes x No ___

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

SOIL

Sampling Point: EF_W_008_PFO

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10yr 2/1	100%					Muck	
6-18	10yr 4/1	100%					Clay	

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
x Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** x **No** _____

Remarks:

Photograph Log

Date: 5/5/21

Feature Name: EF_W_008_PFO

Photograph Direction West

Comments:

Photograph Direction East

Comments:

Photograph Direction South

Comments:

Photograph Direction North

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CVOW Dominion City/County: Chesapeake Sampling Date: 5/5/2021

Applicant/Owner: Dominion State: VA Sampling Point: EF_W_009

Investigator(s): Emily Foster, Kristen Walls Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.74609532 Long: -76.1332205 Datum: WGS84

Soil Map Unit Name: 2: Acredale-Chapanoke complex, 0 to 1 percent slopes NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Disturbed wetland in existing powerline easement. Associated upland point is JD_W_006_UP

Observed Classifications:

Cowardin: PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- x Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- x Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- x Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): 13

Wetland Hydrology Present? Yes x No _____

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

Remarks:

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

Sampling Point: EF W 009

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Arundinaria tecta, Switch Cane	30	Yes	FACW
2. Eleocharis palustris, Common Spike-Rush	30	Yes	OBL
3. Juncus effusus, Lamp Rush	20	Yes	OBL
4. Solidago sp.	5	No	ND
5. Osmunda spectabilis, Royal Fern	5	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
	90 = Total Cover		
50% of total cover: 45	20% of total cover: 18		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		115 (B)

Prevalence Index = B/A = 1.35

Hydrophytic Vegetation Indicators:

x 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes x No ___

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

SOIL

Sampling Point: EF_W_009

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10yr 4/2	95%	10yr 3/6	5%	C	PL	Clay	
3-6	10yr 5/2	95%	7.5yr 5/6	5%	C	PL	Loamy Clay	
6-18	10yr 5/2	70%	7.5yr 5/6	30%	C	PL	Loamy Clay	

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** x **No** _____

Remarks:

Photograph Log

Date: 5/5/21

Feature Name: EF_W_009

Photograph Direction SE

Comments:

Photograph Direction SW

Comments:

Photograph Direction NE

Comments:

Photograph Direction NW

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/14/2021

Applicant/Owner: Dominion State: VA Sampling Point: EF_W_013

Investigator(s): Emily Foster, Debbie Painter Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 3-5

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.770597 Long: -76.064658 Datum: WGS84

Soil Map Unit Name: Tomotely Loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation x, Soil x, or Hydrology x significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:
Wet meadow in powerline easement

Observed Classifications:
Cowardin: PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- x Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- x Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- x Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- x Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes x	No _____	Depth (inches): 8

Wetland Hydrology Present? Yes x No _____

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

Remarks:

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

Sampling Point: EF_W_013

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Solidago gigantea, Late Goldenrod	40	Yes	FACW
2. Cirsium vulgare, Bull Thistle	30	Yes	FACU
3. Juncus effusus, Lamp Rush	20	No	OBL
4. Eleocharis obtusa, Blunt Spike-Rush	5	No	OBL
5. Scirpus atrovirens, Dark-Green Bulrush	5	No	OBL
6. Carex lurida, Shallow Sedge	5	No	OBL
7.			
8.			
9.			
10.			
11.			
	105 = Total Cover		
50% of total cover: 52.5	20% of total cover: 21		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	40	x 2 =	80
FAC species	0	x 3 =	0
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	105 (A)		235 (B)

Prevalence Index = B/A = 2.24

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes x No ___

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

SOIL

Sampling Point: EF_W_013

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10yr 3/2	100%					Silty clay loam	
6-10	10yr 4/2	70%	7.5yr 4/6	30%	C	PL	Silty clay loam	
10-16	10yr 4/2	60%	7.5yr 5/6	40%	C	PL	Silty clay loam	

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** x **No** _____

Remarks:

Photograph Log

Date: 5/14/21

Feature Name: EF_W_013

Photograph Direction North

Comments:

Photograph Direction South

Comments:

Photograph Direction West

Comments:

Photograph Direction East

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/14/2021

Applicant/Owner: Dominion State: VA Sampling Point: EF_W_013_UP

Investigator(s): Emily Foster, Debbie Painter Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Convex Slope (%): 3-5

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.770597 Long: -76.064658 Datum: WGS84

Soil Map Unit Name: Tomotely Loam NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes x	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes x	No _____	
Wetland Hydrology Present?	Yes _____	No x	

Remarks:

Upland forest adjacent to powerline easement.

Observed Classifications:

Cowardin: upland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No x

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

Remarks:

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

Sampling Point: EF_W_013_UP

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum, Red Maple	35	Yes	FAC
2. Liquidambar styraciflua, Sweet-Gum	25	Yes	FAC
3. Quercus rubra, Northern Red Oak	20	Yes	FACU
4. Pinus taeda, Loblolly Pine	15	No	FAC
5.			
6.			
	95	= Total Cover	
50% of total cover: 47.5	20% of total cover: 19		
Sapling Stratum (Plot size: 30 ft)			
1. Acer rubrum, Red Maple	15	Yes	FAC
2. Morella cerifera, Southern Bayberry	6	Yes	FAC
3.			
4.			
5.			
6.			
	21	= Total Cover	
50% of total cover: 10.5	20% of total cover: 4.2		
Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Echinochloa crus-galli, Large Barnyard Grass	5	Yes	FACW
2. Carex sp	5	Yes	ND
3. Pinus taeda, Loblolly Pine	5	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	15	= Total Cover	
50% of total cover: 7.5	20% of total cover: 3		
Woody Vine Stratum (Plot size: 30 ft)			
1. Smilax rotundifolia, Horsebrier	5	Yes	FAC
2.			
3.			
4.			
5.			
	5	= Total Cover	
50% of total cover: 2.5	20% of total cover: 1		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 87.5% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	106	x 3 =	318
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	131 (A)		408 (B)

Prevalence Index = B/A = 3.11

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

x 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes x No ___

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

SOIL

Sampling Point: EF_W_013_UP

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	2.5y 5/8	100%					Sandy loam	
6-12	10yr 4/1	80%	10yr 5/6	20%	C	PL	Sandy loam	
12-16	10yr 4/1	75%	10yr 5/3	25%	C	PL	Silty clay loam	

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** x **No** _____

Remarks:

Very dry crumbly soils.

Photograph Log

Date: 5/14/21

Feature Name: EF_W_013_UP

Photograph Direction West

Comments:

Photograph Direction East

Comments:

Photograph Direction South

Comments:

Photograph Direction North

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Chesapeake Sampling Date: 4/6/2022

Applicant/Owner: Dominion State: VA Sampling Point: EF_W_201_PFO

Investigator(s): E. Foster, T. Conard Section, Township, Range:

Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.724582 Long: -76.168415 Datum: WGS84

Soil Map Unit Name: Psamments, 0-10 percent slopes NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Pinch point of wetlands abutting access road. Observed muskrat at this location. Eagle nest to the North ~1 mile. Bald cypress swamp. Hydrology and soils cross existing road at this point

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)	___ Aquatic Fauna (B13)	___ Surface Soil Cracks (B6)
x High Water Table (A2)	___ Marl Deposits (B15) **(LRR U)**	___ Sparsely Vegetated Concave Surface (B8)
x Saturation (A3)	___ Hydrogen Sulfide Odor (C1)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Presence of Reduced Iron (C4)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Thin Muck Surface (C7)	x Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Other (Explain in Remarks)	___ Geomorphic Position (D2)
x Inundation Visible on Aerial Imagery (B7)		___ Shallow Aquitard (D3)
x Water-Stained Leaves (B9)		x FAC-Neutral Test (D5)
		x Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes x	No ____	Depth (inches): 8
Saturation Present? (includes capillary fringe)	Yes x	No ____	Depth (inches): 6

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:
Surface water present immediately north of access road. Denser A. Tecta south of access road, denser tree canopy north of access road.

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

Sampling Point: EF_W_201_PFO

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Taxodium distichum*	45	Yes	OBL
2. *Acer rubrum*	20	Yes	FAC
3. *Liquidambar styraciflua*	15	No	FAC
4.			
5.			
6.			
	80	=Total Cover	
50% of total cover: 40		20% of total cover: 16	

Sapling Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Shrub Stratum (Plot size: 30)			
1. *Clethra alnifolia*	30	Yes	FACW
2.			
3.			
4.			
5.			
6.			
	30	=Total Cover	
50% of total cover: 15		20% of total cover: 6	

Herb Stratum (Plot size: 30)			
1. *Glyceria septentrionalis*	5	Yes	OBL
2. *Juncus effusus*	5	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	10	=Total Cover	
50% of total cover: 5		20% of total cover: 2	

Woody Vine Stratum (Plot size: 30)			
1. *Smilax rotundifolia*	25	Yes	FAC
2.			
3.			
4.			
5.			
	25	=Total Cover	
50% of total cover: 13		20% of total cover: 5	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	30	x 2 =	60
FAC species	60	x 3 =	180
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	145 (A)		295 (B)
Prevalence Index = B/A =			2.03

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: EF_W_201_PFO

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/1	100					Sandy	Fill
4-10	10YR 4/2	100					Sandy	Fill
10-18	10YR 2/1	100					Sandy	Sandy Loam/ High Organic Content
18-22	10YR 4/2	100					Sandy	sandy loam

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Log

Date: 4/6/22 Feature ID: EF_W_201

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Chesapeake Sampling Date: 4/6/2022

Applicant/Owner: Dominion State: VA Sampling Point: EF_W_201_UP

Investigator(s): E. Foster T. Conard Section, Township, Range: N/a

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.724580 Long: -76.168150 Datum: WGS84

Soil Map Unit Name: Psamments, 0-10 percent slopes NWI classification: Uplands

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

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

Sampling Point: EF_W_201_UP

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus taeda*	40	Yes	FAC
2. *Liquidambar styraciflua*	30	Yes	FAC
3. *Acer rubrum*	10	No	FAC
4. *Quercus alba*	10	No	FACU
5.			
6.			
	90	=Total Cover	
50% of total cover: 45		20% of total cover:	18
Sapling Stratum (Plot size: 30)			
1. *Acer rubrum*	15	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	15	=Total Cover	
50% of total cover: 8		20% of total cover:	3
Shrub Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Woody Vine Stratum (Plot size: 30)			
1. *Smilax rotundifolia*	25	Yes	FAC
2.			
3.			
4.			
5.			
	25	=Total Cover	
50% of total cover: 13		20% of total cover:	5

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	120	x 3 =	360
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	130 (A)		400 (B)
Prevalence Index = B/A =			3.08

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: EF_W_201_UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 3/3	100					Sandy	fine sand
12-18	10YR 5/6	100					Sandy	fine sand

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Photograph Log

Date: 4/6/22 Feature ID: EF_W_201_UP

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 6/7/2022

Applicant/Owner: Dominion State: VA Sampling Point: EF_W_1001

Investigator(s): E. Foster, K. Shephard Section, Township, Range:

Landform (hillside, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.752653 Long: -76.119087 Datum: WGS84

Soil Map Unit Name: Nawney Silt Loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- X Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15) **(LRR U)**
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ____ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 1
Water Table Present?	Yes X	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

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

Sampling Point: EF_W_1001

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	60	Yes	FACW
2. *Acer rubrum*	15	Yes	FAC
3.			
4.			
5.			
6.			
	75	=Total Cover	
50% of total cover: 38		20% of total cover: 15	
Sapling Stratum (Plot size: 30ft)			
1. *Fraxinus pennsylvanica*	10	Yes	FACW
2. *Acer rubrum*	5	Yes	FAC
3. *Carpinus caroliniana*	5	Yes	FAC
4.			
5.			
6.			
	20	=Total Cover	
50% of total cover: 10		20% of total cover: 4	
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 30ft)			
1. *Saururus cernuus*	25	Yes	OBL
2. *Carex crinita*	5	No	FACW
3. *Osmunda spectabilis*	5	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	35	=Total Cover	
50% of total cover: 18		20% of total cover: 7	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	75	x 2 =	150
FAC species	25	x 3 =	75
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	130 (A)		255 (B)

Prevalence Index = B/A = 1.96

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: EF_W_1001

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Loamy/Clayey	SILTY CLAY
6-20	10yr 4/1	98	10YR 5/4	2		M	Sandy	SILTY CLAY

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- x Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Log

Date: 6/7/22 Feature ID: EF_W_1001

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 6/7/2022

Applicant/Owner: Dominion State: VA Sampling Point: EF_W_1001-1002-UP

Investigator(s): E. Foster, K. Shephard Section, Township, Range: N/a

Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 0-3

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7527108 Long: -76.1190257 Datum: WGS84

Soil Map Unit Name: Nawney silt loam NWI classification: Uplands

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Mowed easement

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:
None

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

Sampling Point: EF_W_1001-1002-UP

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30)			
1. *Anthoxanthum odoratum*	40	Yes	FACU
2. *Lespedeza cuneata*	5	No	FACU
3. *Parthenocissus quinquefolia*	10	No	FACU
4. *Toxicodendron radicans*	5	No	FAC
5. *Juncus tenuis*	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	65 =Total Cover		
50% of total cover: 33	20% of total cover: 13		
Woody Vine Stratum (Plot size: 30)			
1. *Smilax rotundifolia*	6	Yes	FAC
2.			
3.			
4.			
5.			
	6 =Total Cover		
50% of total cover: 3	20% of total cover: 2		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	16	x 3 =	48
FACU species	55	x 4 =	220
UPL species	0	x 5 =	0
Column Totals:	71 (A)		268 (B)
Prevalence Index = B/A =			3.77

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

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

SOIL

Sampling Point: EF_W_1001-1002-UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 5/4	100					Sandy	Silty Sand

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Log

Date: 6/7/22 Feature ID: EF_W_1001-1002_UP

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 6/7/2022

Applicant/Owner: Dominion State: VA Sampling Point: EF_W_1002_PEM

Investigator(s): E. Foster, K. Shepherd Section, Township, Range: N/a

Landform (hillside, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.752729 Long: -76.119519 Datum: WGS84

Soil Map Unit Name: Nawny Silt Loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation X, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
None

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15) **(LRR U)**
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ____ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 0
Water Table Present?	Yes X	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:
Area dominated by phramites

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

Sampling Point: EF_W_1002_PEM

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		

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

Sapling Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		

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

Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		

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

Herb Stratum (Plot size: 30Ft)			
1. *Phragmites australis*	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 =Total Cover		

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

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)
Prevalence Index = B/A =			2.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: EF_W_1002_PEM

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Loamy/Clayey	Silty Clay
6-20	10yr 4/1	98	10YR 5/4	2	C	PL	Loamy/Clayey	Silty Clay

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Log

Date: 6/7/22 Feature ID: EF_W_1002

Photograph Number 1

Photograph Direction North

Comments: Area dominated by phragmites

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Chesapeake Sampling Date: 6/7/2022

Applicant/Owner: Dominion State: VA Sampling Point: EF_W_1003_PEM

Investigator(s): E. Foster, K. Shepherd Section, Township, Range: N/a

Landform (hillside, terrace, etc.): Swell Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.694406 Long: -76.170970 Datum: WGS84

Soil Map Unit Name: Tomotley-Bertie complex, 0 to 2 percent slopes NWI classification: PEM1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Depression/former ag. Ditch dominated by lizard's tail.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15) **(LRR U)**
- ____ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- X Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ____ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes ____	No x	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 10

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:
Saturation found, but no water table within 20".

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

Sampling Point: EF_W_1003_PEM

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30 Ft)			
1. *Saururus cernuus*	100	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: EF_W_1003_PEM

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10yr 3/2	98	7.5yr 5/6	2	c	pl	Loamy/Clayey	Prominent redox concentrations
8-16	10yr 4/2	95	7.5yr 5/6	5	c	pl	Loamy/Clayey	Prominent redox concentrations
16-20	10yr 4/1	95	7.5yr 5/6	5	c	pl	Loamy/Clayey	Prominent redox concentrations

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Log

Date: 6/7/22 Feature ID: EF_W_1003

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: DOMINION City/County: Chesapeake Sampling Date: 6/7/2022

Applicant/Owner: DOMINION State: VA Sampling Point: EF_W_1003_UP

Investigator(s): E. Foster, K. Shepherd Section, Township, Range: N/a

Landform (hillside, terrace, etc.): Swell Local relief (concave, convex, none): None Slope (%): 0-5%

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.694361 Long: -76.170978 Datum: WGS84

Soil Map Unit Name: Tomotley-Nimmo complex, 0-1 percent slopes NWI classification: Uplands

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation X, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Problematic vegetation- upland cornfield. All weeds herbicided/dead.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No ____	Depth (inches): ____
Water Table Present?	Yes ____	No ____	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ____	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

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

Sampling Point: EF_W_1003_UP

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

X Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (If observed, list morphological adaptations below.) Problematic vegetation, only planted crops. The only herbaceous vegetation in this area consisted of the remains of planted corn. It appears that herbicide has been applied to the area.

SOIL

Sampling Point: EF_W_1003_UP

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-20	10yr 4/3	100					Loamy/Clayey	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Upland corn field, dry compacted soils.

Photograph Log

Date: 6/7/22 Feature ID: EF_W_1003_UP

Photograph Number 1

Photograph Direction South

Comments:

Photograph Number 2

Photograph Direction _____

Comments:

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 06/15/22

Applicant/Owner: DOMINION State: VA Sampling Point: EF_W_2008

Investigator(s): Emily Foster Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Swell Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.768251 Long: -76.079597 Datum: WGS84

Soil Map Unit Name: Tomotley loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Mowed/maintained ROW, appears to have been sprayed by herbicide.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

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

Sampling Point: EF_W_2008

Tree Stratum (Plot size: 30 FT)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:		20% of total cover:	
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 30)			
1. *Scirpus cyperinus*	15	No	OBL
2. *Arundinaria gigantea*	50	Yes	FACW
3. *Juncus effusus*	25	Yes	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 =Total Cover		
50% of total cover: 45		20% of total cover: 18	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	50	x 2 =	100
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		140 (B)
Prevalence Index = B/A =			1.56

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)
Area is highly disturbed. Located on the golf course. Maintained/mowed vegetation.

SOIL

Sampling Point: EF_W_2008

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-3	10YR 3/2	100					Loamy/Clayey	
3-20	10YR 4/2	90	7.5YR 5/8	10	C	PL/M	Loamy/Clayey	loamy sand

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Log

Date: 6/15/22 Feature ID: EF_W_2008

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 06/15/22

Applicant/Owner: DOMINION State: VA Sampling Point: EF_W_2008_UP

Investigator(s): E. Foster Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.768181 Long: -76.079119 Datum: WGS84

Soil Map Unit Name: Acredale silt loam NWI classification: Uplands

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** x

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

Remarks:

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

Sampling Point: EF_W_2008_UP

Tree Stratum (Plot size: 30 FT)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	50	Yes	FAC
2. *Quercus michauxii*	15	Yes	FACW
3. *Liquidambar styraciflua*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
	70	=Total Cover	
50% of total cover: 35		20% of total cover:	14
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 30)			
1. *Arundinaria gigantea*	15	Yes	FACW
2. *Smilax rotundifolia*	10	Yes	FAC
3. *Pinus taeda*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30	=Total Cover	
50% of total cover: 15		20% of total cover:	6
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	70	x 3 =	210
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		270 (B)

Prevalence Index = B/A = 2.70

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)
Area is highly disturbed. Located on the golf course. Maintained/mowed vegetation.

SOIL

Sampling Point: EF_W_2008_UP

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/2	90	10YR 3/6	10	C	M	Loamy/Clayey	loam, extremely dry and loose

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Photograph Log

Date: 6/15/22 Feature ID: EF_W_2008_UP

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Chesapeake Sampling Date: 4/20/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_002B

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7466961561667 Long: -76.1323004888333 Datum: NAD83

Soil Map Unit Name: Acredale-Chapanoke complex, 0 to 1 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Area located in a powerline easement right-of-way. Area classified as a PEM wetland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 1
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

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

Sampling Point: JA_W_002B

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus taeda*	10	Yes	FAC
2. *Acer rubrum*	5	Yes	FAC
3. *Liquidambar styraciflua*	5	Yes	FAC
4. *Taxodium distichum*	5	Yes	OBL
5.			
6.			
	25	=Total Cover	
50% of total cover: 13		20% of total cover:	5

Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Herb Stratum (Plot size: 5' radius)			
1. *Juncus effusus*	60	Yes	OBL
2. *Carex lurida*	25	Yes	OBL
3. *Typha latifolia*	10	No	OBL
4. *Sagittaria latifolia*	10	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	105	=Total Cover	
50% of total cover: 53		20% of total cover:	21

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_002B

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	100					Loamy/Clayey	Silty Clay
2-24	10YR 5/1	90	5YR 4/3	10	C	PL	Loamy/Clayey	Silty Clay

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Page

Feature ID: JA__W__002B Date 04/20/2022

Photograph Number __1___

Photograph Direction North_

Comments:

Photograph Number __2___

Photograph Direction East__

Comments:

Photograph Number __3___

Photograph Direction South_

Comments:

Photograph Number __4___

Photograph Direction West__

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Chesapeake Sampling Date: 4/20/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_002B_PFO / EF_W_009_PFO

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7466961561667 Long: -76.1323004888333 Datum: NAD83

Soil Map Unit Name: Acredale-Chapanoke complex, 0 to 1 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation____, Soil ____, or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation____, Soil ____, or Hydrology____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Area located in a powerline easeemnt right-of-way. Area classified as a PFO wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 1
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:
None

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

Sampling Point: JA_W_002B_PFO

EF_W_009_PFO

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Taxodium ascendens*	30	Yes	OBL
2. *Salix nigra*	20	Yes	OBL
3. *Catalpa speciosa*	5	No	FACU
4.			
5.			
6.			
	55	=Total Cover	
50% of total cover: 28		20% of total cover: 11	
Sapling Stratum (Plot size: 30)			
1. *Acer rubrum*	30	Yes	FAC
2. *Liquidambar styraciflua*	30	Yes	FAC
3. *Taxodium ascendens*	10	No	OBL
4. *Salix nigra*	10	No	OBL
5. *Ulmus americana*	5	No	FAC
6.			
	85	=Total Cover	
50% of total cover: 43		20% of total cover: 17	
Shrub Stratum (Plot size: 30)			
1. *Taxodium ascendens*	15	Yes	OBL
2. *Acer rubrum*	5	Yes	FAC
3. *Liquidambar styraciflua*	5	Yes	FAC
4. *Catalpa speciosa*	5	Yes	FACU
5.			
6.			
	30	=Total Cover	
50% of total cover: 15		20% of total cover: 6	
Herb Stratum (Plot size: 30)			
1. *Onoclea sensibilis*	10	Yes	FACW
2. *Carex tribuloides*	5	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	15	=Total Cover	
50% of total cover: 8		20% of total cover: 3	
Woody Vine Stratum (Plot size: 30)			
1. *Smilax rotundifolia*	10	Yes	FAC
2.			
3.			
4.			
5.			
	10	=Total Cover	
50% of total cover: 5		20% of total cover: 2	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 10 (A)

Total Number of Dominant Species Across All Strata: 11 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 90.9% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	15	x 2 =	30
FAC species	85	x 3 =	255
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals	195 (A)		410 (B)
Prevalence Index = B/A =			2.10

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_002B_PFO

EF_W_009_PFO

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-2	10YR 3/2	100					Loamy/Clayey	Silt Clay
2-24	10YR 5/1	90	5YR 4/3	10	c	pl	Loamy/Clayey	Prominent redox concentrations

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Log

Date: 4/20/22 Feature ID: JA_W_002B_PFO,EF_W_009_PFO

Photograph Number 1

Photograph Direction NE

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction _____

Comments:

Photograph Number 4

Photograph Direction _____

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Chesapeake Sampling Date: 4/20/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_002B_Up EF_W_009_UP

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Plain Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.746409602 Long: -76.1327666166667 Datum: NAD83

Soil Map Unit Name: Acredale-Chapanoke complex, 0 to 1 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Area located in a powerline easement right-of-way.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

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

Sampling Point: JA-W-002B-Up

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5' radius)			
1. *Poa pratensis*	80	Yes	FACU
2. *Rubus argutus*	10	No	FAC
3. *Arundinaria gigantea*	5	No	FACW
4. *Andropogon glomeratus*	5	No	FACW
5. *Acer rubrum*	2	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	102 =Total Cover		
50% of total cover: 51	20% of total cover: 21		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

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

SOIL

Sampling Point: JA-W-002B-Up

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 5/1	100					Loamy/Clayey	Silty Clay
4-20	10YR 6/1	85	7.5YR 6/4	15	C	PL	Loamy/Clayey	Clay

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Page

Feature ID: JA__W__002B__UP,EF__W__009__UP Date 04/20/2022

Photograph Number __1___

Photograph Direction North__

Comments:

Photograph Number __2___

Photograph Direction East__

Comments:

Photograph Number __3___

Photograph Direction South_

Comments:

Photograph Number __4___

Photograph Direction West__

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Virginia Beach Sampling Date: 4/20/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_003B

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Plain Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7548982965 Long: -76.1150310345 Datum: NAD83

Soil Map Unit Name: Tomotley loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Area located in a powerline easement right-of-way connected to Stream JA-S-03. Area determined to be a PEM wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 1	
Water Table Present?	Yes X	No ____	Depth (inches): 0	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0	**Wetland Hydrology Present?** **Yes** X **No** ____

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

Remarks:

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

Sampling Point: JA_W_003B

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5' radius)			
1. *Solidago gigantea*	20	Yes	FACW
2. *Juncus effusus*	15	Yes	OBL
3. *Scirpus cyperinus*	5	No	OBL
4. *Lonicera japonica*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	45 =Total Cover		
50% of total cover: 23	20% of total cover: 9		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_003B

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 4/1	85	7.5YR 5/8	15	C	PL	Loamy/Clayey	Silty Clay

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Page

Feature ID: JA__W__003B Date : 04/20/2022

Photograph Number __1____

Photograph Direction North__

Comments:

Photograph Number __2____

Photograph Direction East__

Comments:

Photograph Number __3____

Photograph Direction South_

Comments:

Photograph Number __4____

Photograph Direction West__

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Virginia Beach Sampling Date: 4/20/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_003B_UP

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Plain Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7548383216667 Long: -76.115089532 Datum: NAD83

Soil Map Unit Name: Tomotley loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Area located in a powerline easement right-of-way.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

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

Sampling Point: JA_W_003B_UP

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size: 15' radius)			
1. *Morella cerifera*	15	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	15 =Total Cover		
50% of total cover: 8	20% of total cover: 3		
Herb Stratum (Plot size: 5' radius)			
1. *Sorghum halepense*	25	Yes	FACU
2. *Solidago gigantea*	10	Yes	FACW
3. *Rubus argutus*	10	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	45 =Total Cover		
50% of total cover: 23	20% of total cover: 9		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_003B_UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					Loamy/Clayey	Silty Clay Loam
4-20	2.5Y 6/4	85	7.5YR 5/6	15	C	PL	Loamy/Clayey	Silty Clay Loam

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Photograph Page

Feature ID: JA__W__003B__UP Date 04/20/2022

Photograph Number __1___

Photograph Direction North__

Comments:

Photograph Number __2___

Photograph Direction East__

Comments:

Photograph Number __3___

Photograph Direction South_

Comments:

Photograph Number __4___

Photograph Direction West__

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Chesapeake Sampling Date: 4/11/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_004

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.6906053133333 Long: -76.1714989721667 Datum: NAD83

Soil Map Unit Name: Acredale silt loam, 0-1% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Area located within an open depressional area within a powerline right-of-way. Area identified as a PEM wetland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

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

Sampling Point: JA_W_004

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5' radius)			
1. *Andropogon glomeratus*	30	Yes	FACW
2. *Juncus effusus*	20	Yes	OBL
3. *Carex lurida*	15	No	OBL
4. *Ludwigia alternifolia*	10	No	OBL
5. *Rubus argutus*	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	80 =Total Cover		
50% of total cover: 40	20% of total cover: 16		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

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

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_004

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/1	90	10YR 4/3	10	C	PL	Loamy/Clayey	Silty Loam
6-20	10YR 5/1	85	7.5YR 6/8	15	C	PL	Loamy/Clayey	Silty Clay

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Page

Feature ID: JA__W__004 Date : 04/11/2022

Photograph Number __1____

Photograph Direction North__

Comments:

Photograph Number __2____

Photograph Direction East___

Comments:

Photograph Number __3____

Photograph Direction South_

Comments:

Photograph Number __4____

Photograph Direction West__

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Chesapeake Sampling Date: 4/11/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_004_Up

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Plain Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.6909365396667 Long: -76.1714522625 Datum: NAD83

Soil Map Unit Name: Acredale silt loam, 0-1% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Area located within a plain within a powerline right-of-way.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

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

Sampling Point: JA_W_004_Up

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5' radius)			
1. *Andropogon glomeratus*	40	Yes	FACW
2. *Rumex crispus*	30	Yes	FAC
3. *Trifolium repens*	10	No	FACU
4. *Symphyotrichum pilosum*	10	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90 =Total Cover		
50% of total cover: 45	20% of total cover: 18		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_004_Up

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/3	100					Loamy/Clayey	Silty Loam
6-20	10YR 6/1	90	7.5YR 5/8	10	C	PL	Sandy	Loamy Sand

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Page

Feature ID: JA-W-004-UP Date: 04/11/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Virginia Beach Sampling Date: 4/20/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_004B

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.755767 Long: -76.112795 Datum: NAD83

Soil Map Unit Name: Acredale silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Area located in a powerline easement right-of-way located in a depression. Area is determined to be a PEM wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 3
Water Table Present?	Yes X	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: JA_W_004B

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	40	Yes	FAC
2. *Liquidambar styraciflua*	20	Yes	FAC
3. *Taxodium distichum*	10	No	OBL
4.			
5.			
6.			
	70	=Total Cover	
50% of total cover: 35		20% of total cover: 14	

Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Herb Stratum (Plot size: 5' radius)			
1. *Carex lurida*	20	Yes	OBL
2. *Phragmites australis*	15	Yes	FACW
3. *Juncus effusus*	5	No	OBL
4. *Solidago gigantea*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	45	=Total Cover	
50% of total cover: 23		20% of total cover: 9	

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_004B

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/1	100					Loamy/Clayey	Silty Clay
10-20	10YR 5/1	100					Loamy/Clayey	Clay

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Page

Feature ID: JA-W-004B Date : 04/20/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Virginia Beach Sampling Date: 4/20/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_004B_UP

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Plain Local relief (concave, convex, none): None Slope (%): 2

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.755556 Long: -76.113052 Datum: NAD83

Soil Map Unit Name: Acredale silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Area located in a powerline easement right-of-way.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: JA_W_004B_UP

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus taeda*	40	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	40	=Total Cover	
50% of total cover: 20		20% of total cover: 8	
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Shrub Stratum (Plot size: 15' radius)			
1. *Morella cerifera*	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	10	=Total Cover	
50% of total cover: 5		20% of total cover: 2	
Herb Stratum (Plot size: 5' radius)			
1. *Microstegium vimineum*	35	Yes	FAC
2. *Arundinaria gigantea*	10	No	FACW
3. *Rubus argutus*	5	No	FAC
4. *Quercus falcata*	2	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	52	=Total Cover	
50% of total cover: 26		20% of total cover: 11	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_004B_UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 4/1	100					Loamy/Clayey	Silty Clay Loam
1-20	10YR 6/1	85	7.5YR 5/8	15	C	PL	Loamy/Clayey	Clay

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Page

Feature ID: JA-W-004B-UP Date: 04/20/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CVOW Commercial City/County: Chesapeake/Chesapeake Sampling Date: 4/6/2022

Applicant/Owner: Dominion State: VA Sampling Point: JA_W_005_PFO

Investigator(s): E. Foster, Tristan Conard Section, Township, Range:

Landform (hillslope, terrace, etc.): Backswamp Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.724756 Long: -76.175019 Datum: WGS84

Soil Map Unit Name: Psamments, 0 to 10 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:
PFO abutting Intracoastal waterway. Originally mapped as EF_W_202, renamed to JA_W_005

Observed Classifications:
Cowardin: PFO

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- x High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- x Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes x	No _____	Depth (inches): 12
Saturation Present? (includes capillary fringe)	Yes x	No _____	Depth (inches): 9

Wetland Hydrology Present? Yes x No _____

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

Remarks:
Low point in topography.

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

Sampling Point: JA_W_005

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum, Red Maple	35	Yes	FAC
2. Liquidambar styraciflua, Sweet-Gum	30	Yes	FAC
3. Pinus taeda, Loblolly Pine	15	No	FAC
4. Taxodium distichum, Southern Bald-Cypress	5	No	OBL
5.			
6.			
	85	= Total Cover	
50% of total cover: 42.5	20% of total cover: 17		
Sapling Stratum (Plot size: 30 ft)			
1. Acer rubrum, Red Maple	20	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	20	= Total Cover	
50% of total cover: 10	20% of total cover: 4		
Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Woody Vine Stratum (Plot size: 30 ft)			
1. Smilax rotundifolia, Horsebrier	25	Yes	FAC
2.			
3.			
4.			
5.			
	25	= Total Cover	
50% of total cover: 12.5	20% of total cover: 5		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	0	x 2 =	0
FAC species	125	x 3 =	375
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	130 (A)		380 (B)

Prevalence Index = B/A = 2.92

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ___

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

SOIL

Sampling Point: JA_W_005

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10yr 2/1	100%					Sandy loam	fine sandy loam
6-12	10yr 5/2	100%					Sand	fine sand - fill material?
12-18	10yr 2/1	100%					Sandy loam	100% masked sand grains
18-22	10yr 4/2	100%					clayey sand	

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
x Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** x **No** _____

Remarks:

Some fill material observed in top two layers from abutting access road, might explain the two organic layers.

Photograph Page

Feature ID: JA_W_005 Date: 04/06/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Chesapeake Sampling Date: 4/12/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_005,006_UP

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Toe Slope Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7248612841667 Long: -76.1796732798333 Datum: NAD83

Soil Map Unit Name: Psamments, 0-10% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Area located within a toeslope within a mixed hardwood forest, near the Intercoastal Waterway

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

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

Sampling Point: JA_W_005,006_UP

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liriodendron tulipifera*	35	Yes	FACU
2. *Quercus alba*	30	Yes	FACU
3.			
4.			
5.			
6.			
	65	=Total Cover	
50% of total cover: 33		20% of total cover:	13

Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Shrub Stratum (Plot size: 15' radius)			
1. *Quercus alba*	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
	5	=Total Cover	
50% of total cover: 3		20% of total cover:	1

Herb Stratum (Plot size: 5' radius)			
1. *Lonicera japonica*	25	Yes	FACU
2. *Toxicodendron radicans*	15	Yes	FAC
3. *Parthenocissus quinquefolia*	10	No	FACU
4. *Vitis rotundifolia*	5	No	FAC
5. *Arundinaria gigantea*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
	60	=Total Cover	
50% of total cover: 30		20% of total cover:	12

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	20	x 3 =	60
FACU species	105	x 4 =	420
UPL species	0	x 5 =	0
Column Totals:	130 (A)		490 (B)
Prevalence Index = B/A =			3.77

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

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

SOIL

Sampling Point: JA_W_005,006_UP

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/3	100					Loamy/Clayey	Loam
6-20	10YR 5/1	90	7.5YR 5/8	10	C	PL	Loamy/Clayey	Clay

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Page

Feature ID: JA_W_005,006_UPDate: 04/12/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction South

Comments:

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Virginia Beach Sampling Date: 4/21/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_005B

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.786254 Long: -76.022425 Datum: NAD83

Soil Map Unit Name: Acredale silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Area located in a closed depression within a mixed hardwood forest. Wetland identified as a PEM wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 2
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

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

Sampling Point: JA_W_005B

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix nigra*	25	Yes	OBL
2.			
3.			
4.			
5.			
6.			
	25	=Total Cover	
50% of total cover: 13		20% of total cover: 5	
Sapling Stratum (Plot size: 30' radius)			
1. *Acer rubrum*	30	Yes	FAC
2. *Liquidambar styraciflua*	15	Yes	FAC
3. *Pinus taeda*	10	No	FAC
4.			
5.			
6.			
	55	=Total Cover	
50% of total cover: 28		20% of total cover: 11	
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 5' radius)			
1. *Microstegium vimineum*	70	Yes	FAC
2. *Sagittaria latifolia*	10	No	OBL
3. *Carex lurida*	5	No	OBL
4. *Juncus effusus*	5	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90	=Total Cover	
50% of total cover: 45		20% of total cover: 18	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_005B

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/2	100					Loamy/Clayey	Silty Clay Loam
1-20	10YR 4/1	90	7.5YR 5/8	10	C	PL	Loamy/Clayey	Silty Clay

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR, P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
X Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) (**MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
X Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ____

Remarks:

Photograph Page

Feature ID: JA-W-005B Date : 04/21/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Chesapeake Sampling Date: 4/12/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_006

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Toe Slope Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7250923731667 Long: -76.1805306435 Datum: NAD83

Soil Map Unit Name: Psamments, 0-10% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Area located within a toeslope within a mixed hardwood forest, near the Intercoastal Waterway

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

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

Sampling Point: JA_W_006

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus taeda*	50	Yes	FAC
2. *Acer rubrum*	30	Yes	FAC
3. *Liquidambar styraciflua*	10	No	FAC
4.			
5.			
6.			
	90	=Total Cover	
50% of total cover: 45		20% of total cover: 18	
Sapling Stratum (Plot size: 30' radius)			
1. *Liquidambar styraciflua*	15	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	15	=Total Cover	
50% of total cover: 8		20% of total cover: 3	
Shrub Stratum (Plot size: 15' radius)			
1. *Liquidambar styraciflua*	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	10	=Total Cover	
50% of total cover: 5		20% of total cover: 2	
Herb Stratum (Plot size: 5' radius)			
1. *Arundinaria gigantea*	35	Yes	FACW
2. *Persea borbonia*	5	No	FACW
3. *Smilax rotundifolia*	2	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	42	=Total Cover	
50% of total cover: 21		20% of total cover: 9	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_006

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/3	100					Loamy/Clayey	Silty Loam
4-14	10YR 5/1	90	7.5YR 5/8	10	C	PL	Loamy/Clayey	Clay
14-20	10YR 5/1	90	7.5YR 5/8	10	C	PL	Loamy/Clayey	Sandy Loam

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR, P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
X Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ____

Remarks:

Photograph Page

Feature ID: JA_W_006 Date: 04/12/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction South

Comments:

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Chesapeake Sampling Date: 4/12/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_007,JA_W_008

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7242707461667 Long: -76.1858282526667 Datum: NAD83

Soil Map Unit Name: Psamments, 0-10% slopes NWI classification: PSS1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Area located within a emergent wetland, adjacent to JA-S-01. Area is classified as a PEM wetland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

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

Sampling Point: JA_W_007,JA_W_008

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus taeda*	40	Yes	FAC
2. *Acer rubrum*	30	Yes	FAC
3.			
4.			
5.			
6.			
	70	=Total Cover	
50% of total cover: 35		20% of total cover: 14	

Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Herb Stratum (Plot size: 5' radius)			
1. *Phragmites australis*	80	Yes	FACW
2. *Carex lurida*	10	No	OBL
3. *Lonicera japonica*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100	=Total Cover	
50% of total cover: 50		20% of total cover: 20	

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_007,JA_W_008

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/1	100					Loamy/Clayey	Loam
4-20	10YR 4/2	90	7.5YR 4/6	10	C	PL	Sandy	Loamy Sand

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Page

Feature ID: JA_W_007,008 Date: 04/12/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction West

Comments:

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Chesapeake Sampling Date: 4/12/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_007,JA_W_008_UP

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Berm Local relief (concave, convex, none): None Slope (%): 2

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7242398584837 Long: -76.185921955474 Datum: NAD83

Soil Map Unit Name: Psamments, 0-10% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Area located adjacent to an access road, adjacent to JA-S-01.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

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

Sampling Point: JA_W_007,JA_W_008_UP

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus taeda*	70	Yes	FAC
2. *Acer rubrum*	20	Yes	FAC
3.			
4.			
5.			
6.			
	90	=Total Cover	
50% of total cover: 45		20% of total cover:	18
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 5' radius)			
1. *Lonicera japonica*	80	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	80	=Total Cover	
50% of total cover: 40		20% of total cover:	16
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

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

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_007,JA_W_008_UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/1	100					Sandy	Loamy Sand

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR, P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) (**MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Photograph Page

Feature ID: JA_W_007,008_UPDate: 04/12/2022

Photograph Number 1

Photograph Direction West

Comments:

Photograph Number 2

Photograph Direction North

Comments: North facing with soil profile.

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 4/22/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_008B_PEM

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Plain Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): LRR T, MLRA 153A Lat: 36.7519741 Long: -76.1208861 Datum: NAD83

Soil Map Unit Name: Nawney Silt Loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Area located in a powerline easement right of way. Area classified as a PEM wetland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 6
Water Table Present?	Yes X	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

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

Sampling Point: JA_W_008B_PEM

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5' radius)			
1. *Carex lupulina*	30	Yes	OBL
2. *Juncus effusus*	20	Yes	OBL
3. *Peltandra virginica*	20	Yes	OBL
4. *Alternanthera philoxeroides*	10	No	OBL
5. *Phragmites australis*	10	No	FACW
6. *Rubus argutus*	5	No	FAC
7. *Smilax rotundifolia*	5	No	FAC
8.			
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_008B_PEM

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 4/1	90	7.5YR 4/6	10	C	PL	Loamy/Clayey	Silty Clay Loam

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Page

Feature ID: JA-W-008B-WET Date: 04/22/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 6/7/2022

Applicant/Owner: Dominion State: VA Sampling Point: JA_W_008B_PFO

Investigator(s): E. Foster, K. Shephard Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): concave Slope (%): 0-5

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.752653 Long: -76.119087 Datum: WGS84

Soil Map Unit Name: Nawney Silt Loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Forested wetland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- X Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15) **(LRR U)**
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ____ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 1
Water Table Present?	Yes X	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:
None

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

Sampling Point: JA_W_008B_PFO

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	60	Yes	FACW
2. *Acer rubrum*	15	Yes	FAC
3.			
4.			
5.			
6.			
	75	=Total Cover	
50% of total cover: 38		20% of total cover: 15	

Sapling Stratum (Plot size: 30ft)			
1. *Fraxinus pennsylvanica*	10	Yes	FACW
2. *Acer rubrum*	5	Yes	FAC
3. *Carpinus caroliniana*	5	Yes	FAC
4.			
5.			
6.			
	20	=Total Cover	
50% of total cover: 10		20% of total cover: 4	

Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Herb Stratum (Plot size: 30ft)			
1. *Saururus cernuus*	25	Yes	OBL
2. *Carex crinita*	5	No	FACW
3. *Osmunda spectabilis*	5	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	35	=Total Cover	
50% of total cover: 18		20% of total cover: 7	

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	75	x 2 =	150
FAC species	25	x 3 =	75
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	130 (A)		255 (B)

Prevalence Index = B/A = 1.96

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)
None

SOIL

Sampling Point: JA_W_008B_PFO

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Loamy/Clayey	SILTY CLAY
6-20	10yr 4/1	98	10YR 5/4	2	C	M	Sandy	SILTY CLAY

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- x Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- x Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:
None

Photograph Page

Feature ID JA_W_008B_PFO Date 06/07/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 4/22/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_008B_UP

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Plain Local relief (concave, convex, none): None Slope (%): 2

Subregion (LRR or MLRA): LRR T, MLRA 153A Lat: 36.7517554 Long: -76.1212477 Datum: NAD83

Soil Map Unit Name: Acredale silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Area located in a powerline easement right of way on a plain adjacent to a PEM wetland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

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

Sampling Point: JA_W_008B_UP

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size: 15' radius)			
1. *Acer rubrum*	10	Yes	FAC
2. *Pinus taeda*	5	Yes	FAC
3.			
4.			
5.			
6.			
	15 =Total Cover		
50% of total cover: 8	20% of total cover:	3	
Herb Stratum (Plot size: 5' radius)			
1. *Sorghum halepense*	60	Yes	FACU
2. *Andropogon glomeratus*	30	Yes	FACW
3. *Rubus argutus*	10	No	FAC
4. *Symphyotrichum pilosum*	10	No	FAC
5. *Juncus effusus*	5	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
	115 =Total Cover		
50% of total cover: 58	20% of total cover:	23	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

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

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_008B_UP

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-24	2.5Y 5/3	100	7.5YR 5/6	10	C	PL	Loamy/Clayey	Silty Clay Loam

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Photograph Page

Feature ID: JA-W-008B-UP Date: 04/22/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Chesapeake Sampling Date: 4/12/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_009

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Toe Slope Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7245995521667 Long: -76.1827871606667 Datum: NAD83

Soil Map Unit Name: Psamments, 0-10% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Area located within a depression within a mixed hardwood forest, adjacent to the Intercoastal Waterway. Wetland is identified as a PEM wetland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

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

Sampling Point: JA_W_009

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	40	Yes	FAC
2. *Pinus taeda*	20	Yes	FAC
3.			
4.			
5.			
6.			
	60	=Total Cover	
50% of total cover: 30		20% of total cover: 12	
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 5' radius)			
1. *Arundinaria gigantea*	15	Yes	FACW
2. *Lonicera japonica*	10	Yes	FACU
3. *Carex vulpinoidea*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30	=Total Cover	
50% of total cover: 15		20% of total cover: 6	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_009

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	100					Sandy	Loamy Sand
10-24	2.5Y 6/2	90	10YR 6/8	10	C	PL	Sandy	Loamy Sand

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR, P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
X Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ____

Remarks:

Photograph Page

Feature ID: JA-W-009-WET Date: 04/12/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Chesapeake Sampling Date: 4/12/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_009_UP

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Toe Slope Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7246016885 Long: -76.1826072728333 Datum: NAD83

Soil Map Unit Name: Psamments, 0-10% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Area located within a mixed hardwood forest, adjacent to the Intercoastal Waterway.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

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

Sampling Point: JA_W_009_UP

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	40	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	40	=Total Cover	
50% of total cover: 20		20% of total cover: 8	
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 5' radius)			
1. *Lonicera japonica*	20	Yes	FACU
2. *Vitis rotundifolia*	10	Yes	FAC
3. *Smilax rotundifolia*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	35	=Total Cover	
50% of total cover: 18		20% of total cover: 7	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_009_UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24	10YR 2/1	100					Loamy/Clayey	Loam

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR, P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) (**MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Photograph Page

Feature ID: JA-W-009-UP Date 04/12/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 4/22/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_009B_PFO

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR T, MLRA 153A Lat: 36.770121 Long: -76.054535 Datum: NAD83

Soil Map Unit Name: Tomotley loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Area located in a mixed hardwood forest. Area classified as a PFO wetland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- X Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 4
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

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

Sampling Point: JA_W_009B_PFO

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus phellos*	20	Yes	FACW
2. *Salix nigra*	5	Yes	OBL
3.			
4.			
5.			
6.			
	25	=Total Cover	
50% of total cover: 13		20% of total cover:	5
Sapling Stratum (Plot size: 30' radius)			
1. *Acer rubrum*	10	Yes	FAC
2. *Populus heterophylla*	10	Yes	OBL
3. *Pinus taeda*	5	Yes	FAC
4.			
5.			
6.			
	25	=Total Cover	
50% of total cover: 13		20% of total cover:	5
Shrub Stratum (Plot size: 15' radius)			
1. *Morella cerifera*	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	10	=Total Cover	
50% of total cover: 5		20% of total cover:	2
Herb Stratum (Plot size: 5' radius)			
1. *Carex lurida*	40	Yes	OBL
2. *Juncus effusus*	30	Yes	OBL
3. *Smilax rotundifolia*	5	No	FAC
4. *Rubus argutus*	5	No	FAC
5. *Lonicera japonica*	2	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
	82	=Total Cover	
50% of total cover: 41		20% of total cover:	17
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_009B_PFO

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 5/1	100					Loamy/Clayey	Silty Loam

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Page

Feature ID: JA-W-009-B-WET Date: 04/22/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 4/22/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_009B_UP

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Berm Local relief (concave, convex, none): None Slope (%): 3

Subregion (LRR or MLRA): LRR T, MLRA 153A Lat: 36.769697 Long: -76.054357 Datum: NAD83

Soil Map Unit Name: Tomotley loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Area located in a mixed hardwood forest.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

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

Sampling Point: JA_W_009B_UP

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liquidambar styraciflua*	40	Yes	FAC
2. *Acer rubrum*	25	Yes	FAC
3. *Liriodendron tulipifera*	10	No	FACU
4.			
5.			
6.			
	75	=Total Cover	
50% of total cover: 38		20% of total cover:	15
Sapling Stratum (Plot size: 30' radius)			
1. *Fagus grandifolia*	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
	5	=Total Cover	
50% of total cover: 3		20% of total cover:	1
Shrub Stratum (Plot size: 15' radius)			
1. *Morella cerifera*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	5	=Total Cover	
50% of total cover: 3		20% of total cover:	1
Herb Stratum (Plot size: 5' radius)			
1. *Smilax rotundifolia*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5	=Total Cover	
50% of total cover: 3		20% of total cover:	1
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_009B_UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/3	100					Loamy/Clayey	Loam
4-24	10YR 4/2	100					Sandy	Loamy Sand

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR, P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) (**MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Photograph Page

Feature ID: JA-W-009B-UP Date: 04/22/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 4/22/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_009B_PEM

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 3

Subregion (LRR or MLRA): LRR T, MLRA 153A Lat: 36.770274 Long: -76.055113 Datum: NAD83

Soil Map Unit Name: Tomotley loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Area located in a sparcely vegetated depression with a powerline easement right-of-way

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- X Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

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

Sampling Point: JA_W_009B_PEM

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5' radius)			
1. *Juncus effusus*	10	Yes	OBL
2. *Carex lurida*	5	Yes	OBL
3. *Sorghum halepense*	5	Yes	FACU
4. *Eclipta prostrata*	5	Yes	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	25 =Total Cover		
50% of total cover: 13	20% of total cover: 5		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

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

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_009B_PEM

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/1	95	7.5YR 4/6	5	C	PL	Loamy/Clayey	Silty Loam
4-20	10YR 4/1	95	7.5YR 4/6	5	C	PL	Loamy/Clayey	Silty Clay

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Page

Feature ID: JA-W-009B-PEM Date : 04/22/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Virginia Beach Sampling Date: 4/22/2022

Applicant/Owner: Dominon Energy State: VA Sampling Point: JA_W_010

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7936287026667 Long: -76.0206851111667 Datum: NAD83

Soil Map Unit Name: Tomotley loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Area located within a agricultural field utilized for the cultivation of row crops. Area is classified as a PEM wetland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 4
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 4

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

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

Sampling Point: JA_W_010

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size: 15' radius)			
1. *Salix nigra*	30	Yes	OBL
2.			
3.			
4.			
5.			
6.			
	30 =Total Cover		
50% of total cover: 15	20% of total cover: 6		
Herb Stratum (Plot size: 5' radius)			
1. *Juncus effusus*	15	Yes	OBL
2. *Typha latifolia*	10	Yes	OBL
3. *Salix nigra*	5	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30 =Total Cover		
50% of total cover: 15	20% of total cover: 6		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_010

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 5/2	95	7.5YR 5/6	5	C	PL	Loamy/Clayey	Sandy Clay Loam

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Page

Feature ID: JA-W-010-WET Date: 04/22/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Virginia Beach Sampling Date: 4/22/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_010,011,012_UP

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Plain Local relief (concave, convex, none): None Slope (%): 2

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7937177718333 Long: -76.0206762888333 Datum: NAD83

Soil Map Unit Name: Tomotley loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Area located within an agricultural field, cultivated with row crops

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Drainage patterns area present

Remarks:

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

Sampling Point: JA_W_010,011,012_UP

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5' radius)			
1. *Echinochloa crus-galli*	15	Yes	FACW
2. *Pteridium aquilinum*	5	Yes	FACU
3. *Juncus effusus*	5	Yes	OBL
4. *Elymus virginicus*	5	Yes	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30 =Total Cover		
50% of total cover: 15	20% of total cover: 6		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

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

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)
Cotton stems and remains observed within area

SOIL

Sampling Point: JA_W_010,011,012_UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/2	100					Loamy/Clayey	Sandy Loam
8-20	10YR 5/1	100					Loamy/Clayey	Clay Loam

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR, P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) (**MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
X Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ____

Remarks:

Photograph Page

Feature ID: JA-W-010-UP Date: 04/22/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 4/22/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_010B_PEM

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Berm Local relief (concave, convex, none): None Slope (%): 3

Subregion (LRR or MLRA): LRR T, MLRA 153A Lat: 36.770240 Long: -76.052854 Datum: NAD83

Soil Map Unit Name: Tomotley loam NWI classification: PSS1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Area located in a powerline easement right-of-way. Area classified as a PEM wetland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 2
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

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

Sampling Point: JA_W_010B_PEM

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5' radius)			
1. *Juncus effusus*	30	Yes	OBL
2. *Carex lurida*	20	Yes	OBL
3. *Peltandra virginica*	10	No	OBL
4. *Phragmites australis*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	65 =Total Cover		
50% of total cover: 33	20% of total cover: 13		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

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

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_010B_PEM

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 4/1	90	5YR 4/6	10	C	PL	Loamy/Clayey	Silty Clay

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Page

Feature ID: JA-W-010B-PEM Date : 04/22/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 4/22/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_010B_PFO

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Berm Local relief (concave, convex, none): None Slope (%): 3

Subregion (LRR or MLRA): LRR T, MLRA 153A Lat: 36.770037 Long: -76.052984 Datum: NAD83

Soil Map Unit Name: Tomotley loam NWI classification: PSS1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Area located in a mixed hardwood forest. Area classified as a PFO wetland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 1
Water Table Present?	Yes X	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

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

Sampling Point: JA_W_010B_PFO

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	60	Yes	FAC
2. *Quercus phellos*	20	Yes	FACW
3.			
4.			
5.			
6.			
	80	=Total Cover	
50% of total cover: 40		20% of total cover:	16
Sapling Stratum (Plot size: 30' radius)			
1. *Acer rubrum*	20	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	20	=Total Cover	
50% of total cover: 10		20% of total cover:	4
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 5' radius)			
1. *Arundinaria gigantea*	40	Yes	FACW
2. *Woodwardia areolata*	30	Yes	OBL
3. *Carex vulpinoidea*	20	Yes	FACW
4. *Smilax rotundifolia*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	95	=Total Cover	
50% of total cover: 48		20% of total cover:	19
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_010B_PFO

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 5/1	100					Loamy/Clayey	Silty Clay

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR, P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) (**MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
X Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ____

Remarks:

Photograph Page

Feature ID: JA-W-010B-PFO Date : 04/22/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 4/22/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JA_W_010B_UP

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Toe Slope Local relief (concave, convex, none): None Slope (%): 3

Subregion (LRR or MLRA): LRR T, MLRA 153A Lat: 36.769952 Long: -76.053308 Datum: NAD83

Soil Map Unit Name: Tomotley loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Area located in a mixed hardwood forest.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

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

Sampling Point: JA_W_010B_UP

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fagus grandifolia*	60	Yes	FACU
2.			
3.			
4.			
5.			
6.			
	60	=Total Cover	
50% of total cover: 30		20% of total cover:	12
Sapling Stratum (Plot size: 30' radius)			
1. *Fagus grandifolia*	20	Yes	FACU
2.			
3.			
4.			
5.			
6.			
	20	=Total Cover	
50% of total cover: 10		20% of total cover:	4
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 5' radius)			
1. *Microstegium vimineum*	20	Yes	FAC
2. *Osmundastrum cinnamomeum*	15	Yes	FACW
3. *Lonicera japonica*	10	No	FACU
4. *Arundinaria gigantea*	5	No	FACW
5. *Toxicodendron radicans*	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	55	=Total Cover	
50% of total cover: 28		20% of total cover:	11
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	25	x 3 =	75
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	135 (A)		475 (B)
Prevalence Index = B/A =			3.52

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

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

SOIL

Sampling Point: JA_W_010B_UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/1	60	10YR 3/2	40	C	M	Loamy/Clayey	Silty Clay Loam
4-20	10YR 5/1	90	10YR 5/8	10	C	PL	Loamy/Clayey	Silty Clay

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Page

Feature ID: JA-W-010B-UP Date: 04/22/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Virginia Beach Sampling Date: 04/22/2022

Applicant/Owner: Dominon Energy State: VA Sampling Point: JA_W_011

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR T, MLRA 150B Lat: 36.7945200736667 Long: -76.0213415845 Datum: NAD83

Soil Map Unit Name: Tomotley loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Area located within a ditch in an agricultural field utilized for the cultivation of row crops. Area classified as a PEM wetland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- X Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

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

Sampling Point: JA_W_011

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5' radius)			
1. *Juncus effusus*	80	Yes	OBL
2. *Carex lurida*	10	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90 =Total Cover		
50% of total cover: 45	20% of total cover: 18		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

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

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_011

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 4/1	90	7.5YR 5/8	10	C	PL	Loamy/Clayey	Silty Loam

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Page

Feature ID: JA-W-011-WET Date: 04/22/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Virginia Beach Sampling Date: 04/22/2022

Applicant/Owner: Dominon Energy State: VA Sampling Point: JA_W_012

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR T, MLRA 150B Lat: 36.7939677883333 Long: -76.020647163 Datum: NAD83

Soil Map Unit Name: Tomotley loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Area located within a ditch in an agricultural field utilized for the cultivation of row crops. Area classified as a PEM wetland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- X Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

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

Sampling Point: JA_W_012

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5' radius)			
1. *Juncus effusus*	80	Yes	OBL
2. *Carex lurida*	10	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90 =Total Cover		
50% of total cover: 45	20% of total cover: 18		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

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

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JA_W_012

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 4/1	90	7.5YR 5/8	10	C	PL	Loamy/Clayey	Silty Loam

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Page

Feature ID: JA-W-012-WET Date: 04/22/2022

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Dominion CVOW City/County: Virginia Beach Sampling Date: 12/20/2021

Applicant/Owner: Dominion State: VA Sampling Point: JC W 101

Investigator(s): James Cook Section, Township, Range: N/a

Landform (hillside, terrace, etc.): Slope Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR or MLRA): LRR P, MLRA 135B Lat: 36.800897 Long: -76.004191 Datum: NAD83

Soil Map Unit Name: Tomotley Loam NWI classification: N/a

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Wetland status was likely created or exascerbated by the presence of the easemtn. Soil was compacted with clear presense of rutting

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 14

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

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

Sampling Point: JC_W_101_WET

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size: 30)			
1. *Liquidambar styraciflua*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	5 =Total Cover		
50% of total cover: 3	20% of total cover: 1		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30)			
1. *Juncus effusus*	40	Yes	OBL
2. *Scirpus cyperinus*	40	Yes	OBL
3. *Solidago gigantea*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	85 =Total Cover		
50% of total cover: 43	20% of total cover: 17		
Woody Vine Stratum (Plot size: 30)			
1. *Smilax rotundifolia*	5	Yes	FAC
2.			
3.			
4.			
5.			
	5 =Total Cover		
50% of total cover: 3	20% of total cover: 1		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	5	x 2 =	10
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		120 (B)
Prevalence Index = B/A =			1.26

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

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

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

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

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: JC_W_101_WET

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-3	7.5YR 4/1	100					Loamy/Clayey	
3-10	7.5YR 4/1	90	5YR 4/4	10	c	PL/M	Loamy/Clayey	Prominent redox concentrations
10-20	2.5Y 6/1	90	7.5YR 5/8	10	C	M	Loamy/Clayey	Spodosol

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Layer 3/10 also had 7.5YR 6/1 depletions within layer (30%)

Photograph Log

Date: 12/20/21

Feature Name: JC_W_101

Photograph Direction North

Comments:

Photograph Direction East

Comments:

Photograph Direction South

Comments:

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Dominion CVOW City/County: Virginia Beach Sampling Date: 12/20/2021

Applicant/Owner: Dominion State: VA Sampling Point: JC_W_101_UP

Investigator(s): James Cook Section, Township, Range: N/a

Landform (hillside, terrace, etc.): None Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR or MLRA): LRR P, MLRA 135B Lat: 36.800897 Long: -76.004191 Datum: NAD83

Soil Map Unit Name: Tomotley Loam NWI classification: N/a

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Pine Forest

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes ____	No x	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No x	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No apparent hydrology beyond fac-neutral test. Area is likely fringe/marginal and on the transitional line.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: JC_W_101_UP

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus taeda*	60	Yes	FAC
2. *Liquidambar styraciflua*	10	No	FAC
3. *Acer rubrum*	10	No	FAC
4.			
5.			
6.			
	80	=Total Cover	
50% of total cover: 40		20% of total cover:	16
Sapling Stratum (Plot size: 30)			
1. *Pinus taeda*	20	Yes	FAC
2. *Liquidambar styraciflua*	10	Yes	FAC
3.			
4.			
5.			
6.			
	30	=Total Cover	
50% of total cover: 15		20% of total cover:	6
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 30)			
1. *Arundinaria gigantea*	30	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30	=Total Cover	
50% of total cover: 15		20% of total cover:	6
Woody Vine Stratum (Plot size: 30)			
1. *Smilax rotundifolia*	5	Yes	FAC
2.			
3.			
4.			
5.			
	5	=Total Cover	
50% of total cover: 3		20% of total cover:	1

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	115	x 3 =	345
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	145 (A)		405 (B)
Prevalence Index = B/A =			2.79

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: JC_W_101_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-3							Peat	Duff
3-6	10YR 3/1	100					Loamy/Clayey	
6-14	10YR 7/1	100					Loamy/Clayey	Spodosol
14-20	10YR 7/1	99	2.5Y 7/3	1	c	M	Loamy/Clayey	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Log

Date: 12/20/21

Feature Name: JC_W_101 UP

Photograph Direction North

Comments:

Photograph Direction East

Comments:

Photograph Direction South

Comments:

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 5/31/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: JC_W_1002

Investigator(s): T. Conard, E. Deck Section, Township, Range: N/a

Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7569409488333 Long: -76.110397933 Datum: NAD83

Soil Map Unit Name: Tomotley Loam NWI classification: N/a

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Wetland is located in a mowed/maintained ROW. Rutting present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15) **(LRR U)**
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- X Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ____ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 1
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Some standing water in ruts - Crayfish burrows present throughout.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: JC_W_1002

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30)			
1. *Eleocharis obtusa*	20	Yes	OBL
2. *Carex lurida*	15	Yes	OBL
3. *Juncus effusus*	15	Yes	OBL
4. *Murdannia keisak*	20	Yes	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	70 =Total Cover		
50% of total cover: 35	20% of total cover: 14		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		70 (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)
Maintained ROW

SOIL

Sampling Point: JC_W_1002

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 5/2	90	10YR 5/6	10	C	PL	Loamy/Clayey	Prominent redox concentrations
8-16	10YR 4/1	90	10YR 5/6	10	C	PL	Loamy/Clayey	Prominent redox concentrations
16-18								Charcoal

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:
None

Photograph Log

Date: 5/31/22 Feature ID: JC_W_1002

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 6/3/2022

Applicant/Owner: Dominion State: VA Sampling Point: JC_W_1002-1003_UP

Investigator(s): E. Foster, T. Conard Section, Township, Range: N/a

Landform (hillside, terrace, etc.): Hillside Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7577419945 Long: -76.1091727696667 Datum: NAD 83

Soil Map Unit Name: Tomotley Loam NWI classification: N/a

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Upland in maintained ROW

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15) **(LRR U)**
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)
- ____ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
None

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: JC_W_1002-1003_UP

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30)			
1. *Holcus lanatus*	20	Yes	FACU
2. *Anthoxanthum odoratum*	25	Yes	FACU
3. *Rubus aboriginum*	2	No	UPL
4. *Lespedeza cuneata*	10	No	FACU
5. *Solidago canadensis*	15	No	FACU
6. *Toxicodendron radicans*	10	No	FAC
7.			
8.			
9.			
10.			
11.			
	82 =Total Cover		
50% of total cover: 41	20% of total cover: 17		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	70	x 4 =	280
UPL species	2	x 5 =	10
Column Totals:	82 (A)		320 (B)
Prevalence Index = B/A =			3.90

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: JC_W_1002-1003_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10yr 4/4	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Photograph Log

Date: 6/3/22 Feature ID: JC_W_1002-1003_UP

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virgina Beach Sampling Date: 6/3/2022

Applicant/Owner: Dominion State: VA Sampling Point: JC_W_1003_PEM

Investigator(s): E. Foster Section, Township, Range: N/a

Landform (hillside, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 3

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7581767616667 Long: -76.1077039085 Datum: NAD83

Soil Map Unit Name: Nawney silt loam NWI classification: N/a

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
PEM slope wetland in existing easement.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15) **(LRR U)**
- ____ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- X Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ____ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Adjacent to incised stream (impacted by easement development)

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: JC_W_1003_PEM

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30)			
1. *Persicaria sagittata*	50	Yes	OBL
2. *Carex lurida*	20	Yes	OBL
3. *Carex vulpinoidea*	10	No	FACW
4. *Holcus lanatus*	5	No	FACU
5. *Ambrosia artemisiifolia*	5	No	FACU
6. *Juncus effusus*	5	No	OBL
7.			
8.			
9.			
10.			
11.			
	95 =Total Cover		
50% of total cover: 48	20% of total cover: 19		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	75	x 1 =	75
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	95 (A)		135 (B)
Prevalence Index = B/A =			1.42

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: JC_W_1003_PEM

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10yr 4/2	98	7.5yr 4/6	2	C	PL	Loamy/Clayey	Prominent redox concentrations
4-20	2.5y 4/1	95	7.5yr 4/6	5	C	PL	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:
None

Photograph Log

Date: 6/3/22 Feature ID: JC_W_1003_PEM

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 6/3/2022

Applicant/Owner: Dominion State: VA Sampling Point: JC_W_1003_PFO

Investigator(s): E. Foster, T. Conard Section, Township, Range: N/a

Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 0-5

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7582175591667 Long: -76.1085068336667 Datum: NAD83

Soil Map Unit Name: Nawney silt loam NWI classification: PFOd

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Part of a large wetland (forested complex) that follows the northern boundary of the LOD and is tethered to a large water feature (likely an extension of JD_S_005).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15) **(LRR U)**
- ____ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- X Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ____ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
None

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: JC_W_1003_PFO

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	50	Yes	FACW
2. *Acer rubrum*	20	Yes	FAC
3.			
4.			
5.			
6.			
	70	=Total Cover	
50% of total cover: 35		20% of total cover:	14
Sapling Stratum (Plot size: 30)			
1. *Liquidambar styraciflua*	10	Yes	FAC
2. *Ligustrum sinense*	10	Yes	FAC
3. *Fraxinus pennsylvanica*	10	Yes	FACW
4.			
5.			
6.			
	30	=Total Cover	
50% of total cover: 15		20% of total cover:	6
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 30)			
1. *Glyceria septentrionalis*	25	Yes	OBL
2. *Lonicera japonica*	10	Yes	FACU
3. *Saururus cernuus*	5	No	OBL
4. *Arundinaria gigantea*	10	Yes	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	50	=Total Cover	
50% of total cover: 25		20% of total cover:	10
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 87.5% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	70	x 2 =	140
FAC species	40	x 3 =	120
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	150 (A)		330 (B)

Prevalence Index = B/A = 2.20

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)
None

SOIL

Sampling Point: JC_W_1003_PFO

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10yr 4/2	100					Loamy/Clayey	
8-20	10yr 5/1	95	10yr 5/6	5	C	PL	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:
None

Photograph Log

Date: 6/3/22 Feature ID: JC_W_1003_PFO

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virgina Beach Sampling Date: 6/3/2022

Applicant/Owner: Dominion State: VA Sampling Point: JC W 1004

Investigator(s): E. Foster, T. Conard Section, Township, Range: N/a

Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): LRR T, MLRA 153D Lat: 36.759092696 Long: -76.1066881635 Datum: NAD83

Soil Map Unit Name: Nawney silt loam NWI classification: PFOd

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
PEM slope wetland in existing easement.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15) **(LRR U)**
- ____ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- X Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ____ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
None

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: JC_W_1004

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30)			
1. *Saururus cernuus*	25	Yes	OBL
2. *Carex lurida*	20	Yes	OBL
3. *Carex longii*	10	No	OBL
4. *Microstegium vimineum*	20	Yes	FAC
5. *Parthenocissus quinquefolia*	20	Yes	FACU
6. *Juncus effusus*	15	No	OBL
7. *Impatiens capensis*	10	No	FACW
8.			
9.			
10.			
11.			
	120 =Total Cover		
50% of total cover: 60	20% of total cover: 24		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	10	x 2 =	20
FAC species	20	x 3 =	60
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	120 (A)		230 (B)
Prevalence Index = B/A =			1.92

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: JC_W_1004

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10yr 4/2	98	7.5yr 4/6	2	C	PL	Loamy/Clayey	Prominent redox concentrations
8-20	10yr 5/1	95	7.5yr 4/6	5	C	PL	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:
None

Photograph Log

Date: 6/3/22 Feature ID: JC_W_1004

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 6/3/2022

Applicant/Owner: Dominion State: VA Sampling Point: JC_W_1005_PEM

Investigator(s): E. Foster, J. Cook Section, Township, Range: N/a

Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5-10

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.75915607 Long: -76.1057822948333 Datum: NAD83

Soil Map Unit Name: Dragston fine sandy loam NWI classification: PFOd

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
PEM in existing easement,.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15) **(LRR U)**
- ____ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ____ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
None

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: JC_W_1005_PEM

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30)			
1. *Phragmites australis*	50	Yes	FACW
2. *Arundinaria gigantea*	10	No	FACW
3. *Eutrochium purpureum*	10	No	FAC
4. *Impatiens capensis*	15	No	FACW
5. *Solidago sp.*	10	No	
6.			
7.			
8.			
9.			
10.			
11.			
	95 =Total Cover		
50% of total cover: 48	20% of total cover: 19		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	75	x 2 =	150
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		180 (B)
Prevalence Index = B/A =			2.12

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: JC_W_1005_PEM

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10yr 3/2	95	10yr 4/6	5	C	M	Loamy/Clayey	Prominent redox concentrations
8-20	10yr 3/1	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Log

Date: 6/3/22 Feature ID: JC_W_1005_PEM

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 6/3/2022

Applicant/Owner: Dominion State: VA Sampling Point: JC_W_1005_PFO

Investigator(s): E. Foster, T. Conard Section, Township, Range: N/a

Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7593516923333 Long: -76.1061381725 Datum: NAD83

Soil Map Unit Name: Nawney silt loam NWI classification: PFOd

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Part of a larger PFO complex that is tied to a large waterway (likely an extension of JD_S_005)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15) **(LRR U)**
- ____ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- X Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ____ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
None

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: JC_W_1005_PFO

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	50	Yes	FACW
2. *Acer rubrum*	20	Yes	FAC
3.			
4.			
5.			
6.			
	70	=Total Cover	
50% of total cover: 35		20% of total cover:	14
Sapling Stratum (Plot size: 30)			
1. *Liquidambar styraciflua*	10	Yes	FAC
2. *Ligustrum sinense*	10	Yes	FAC
3.			
4.			
5.			
6.			
	20	=Total Cover	
50% of total cover: 10		20% of total cover:	4
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 30)			
1. *Glyceria septentrionalis*	5	No	OBL
2. *Lonicera japonica*	10	Yes	FACU
3. *Saururus cernuus*	12	Yes	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	27	=Total Cover	
50% of total cover: 14		20% of total cover:	6
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	17	x 1 =	17
FACW species	50	x 2 =	100
FAC species	40	x 3 =	120
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	117 (A)		277 (B)

Prevalence Index = B/A = 2.37

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: JC_W_1005_PFO

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10yr 4/2	100					Loamy/Clayey	
6-20	10yr 5/1	95	10yr 5/6	5	C	PL	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:
None

Photograph Log

Date: 6/3/22 Feature ID: JC_W_1005_PFO

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 6/3/2022

Applicant/Owner: Dominion State: VA Sampling Point: JC_W_1005_UP

Investigator(s): E. Foster, T. Conard Section, Township, Range: N/a

Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5-10

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7590926596667 Long: -76.1057976391667 Datum: NAD83

Soil Map Unit Name: Dragston fine sandy loam NWI classification: N/a

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Upland within maintend ROW.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
None

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: JC_W_1005_UP

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30)			
1. *Holcus lanatus*	20	Yes	FACU
2. *Anthoxanthum odoratum*	25	Yes	FACU
3. *Sisyrinchium fuscatum*	2	No	UPL
4. *Digitaria ciliaris*	20	Yes	FACU
5. *Eupatorium perfoliatum*	15	No	FACW
6. *Juncus tenuis*	10	No	FAC
7.			
8.			
9.			
10.			
11.			
	92 =Total Cover		
50% of total cover: 46	20% of total cover: 19		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	10	x 3 =	30
FACU species	65	x 4 =	260
UPL species	2	x 5 =	10
Column Totals:	92 (A)		330 (B)
Prevalence Index = B/A =			3.59

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: JC_W_1005_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10yr 5/4	100					Sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Photograph Log

Date: 6/3/22 Feature ID: JC_W_1005_UP

Photograph Number 1

Photograph Direction North

Comments:

Photograph Number 2

Photograph Direction East

Comments:

Photograph Number 3

Photograph Direction South

Comments:

Photograph Number 4

Photograph Direction West

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Chesapeake/Chesapeake Sampling Date: 5/5/2021

Applicant/Owner: Dominion State: VA Sampling Point: JD_W_004

Investigator(s): J. Daugustine, B. Harris Section, Township, Range:

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.742982 Long: -76.139637 Datum: WGS84

Soil Map Unit Name: 2 - Acredale-Chapanoke complex, 0 to 1 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No x

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Data point taken within existing overhead utility easement.

Observed Classifications:

Cowardin: PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- x High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- x Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): _____

Water Table Present? Yes x No _____ Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes x No _____ Depth (inches): 0

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Surface water (approximately 3 inches) observed adjacent to data point location. The water table was measured at approximately 8 inches during data collection but it can be assumed that due to location of adjacent surface water, water table is more likely within 1-2 inches of the soil surface and water infiltration was slow due to high clay content.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: JD_W_004

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. Pinus taeda, Loblolly Pine	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		
Herb Stratum (Plot size: 30 ft)			
1. Eleocharis palustris, Common Spike-Rush	25	Yes	OBL
2. Arundinaria tecta, Switch Cane	20	Yes	FACW
3. Andropogon virginicus, Broom-Sedge	20	Yes	FAC
4. Andropogon glomeratus, Bushy Bluestem	20	Yes	FACW
5. Pinus taeda, Loblolly Pine	5	No	FAC
6. Juncus effusus, Lamp Rush	5	No	OBL
7.			
8.			
9.			
10.			
11.			
	95 = Total Cover		
50% of total cover: 47.5	20% of total cover: 19		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	40	x 2 =	80
FAC species	30	x 3 =	90
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

x 2 - Dominance Test is >50%

x 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes x No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: JD_W_004

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/1	95%	7.5YR 6/6	5%	C	M	Clay loam	
5-12	10YR 5/1	95%	10YR 5/8	5%	C	PL	Clay loam	
12-20	2.5Y 7/1	100%					Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes x No ____

Remarks:

Photograph Log

Date: 5/5/21

Feature Name: JD_W_004

Photograph Direction West

Comments:

Photograph Direction East

Comments:

Photograph Direction South

Comments:

Photograph Direction North

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Chesapeake/Chesapeake Sampling Date: 5/5/2021

Applicant/Owner: Dominion State: VA Sampling Point: JD_W_004_UP & EF_W_008_UP

Investigator(s): J. Daugustine, B. Harris Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.742891 Long: -76.139607 Datum: WGS84

Soil Map Unit Name: 2 - Acredale-Chapanoke complex, 0 to 1 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No x

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes _____ No x	

Remarks:

Data point taken along forested edge of existing utility easement. Soil meets the depleted matrix hydric soil indicator, however only one secondary hydrology indicator was identified, FAC-neutral test, and therefore does not characterize this area as a wetland.

Observed Classifications:

Cowardin: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): _____

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): _____

Wetland Hydrology Present? Yes _____ No x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

JD_W_004_UP
EF_W_008_UP

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point:

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Arundinaria tecta, Switch Cane	80	Yes	FACW
2. Pinus taeda, Loblolly Pine	5	No	FAC
3. Andropogon virginicus, Broom-Sedge	5	No	FAC
4. Andropogon glomeratus, Bushy Bluestem	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	95 = Total Cover		
50% of total cover: 47.5	20% of total cover: 19		
Woody Vine Stratum (Plot size: 30 ft)			
1. Vitis rotundifolia, Muscadine	15	Yes	FAC
2. Smilax rotundifolia, Horsebrier	5	Yes	FAC
3.			
4.			
5.			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	85	x 2 =	170
FAC species	30	x 3 =	90
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	115 (A)		260 (B)

Prevalence Index = B/A = 2.26

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

x 2 - Dominance Test is >50%

x 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes x No ___

Remarks: (If observed, list morphological adaptations below).

Forested area consisted of Pinus taeda, Acer rubrum, and Fagus grandifolia.

SOIL

Sampling Point: JD_W_004_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) EF_W_008_UP

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/1	100%					Loam	
3-7	10YR 3/2	100%					Loam	
7-20	10YR 6/1	98%	10YR 6/6	2%	C	M	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** x **No** _____

Remarks:

Photograph Log

Date: 5/5/21

Feature Name: JD_W_004_UP
EF_W_008_UP

Photograph Direction East

Comments:

Photograph Direction West

Comments:

Photograph Direction South

Comments:

Photograph Direction North

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Chesapeake/Chesapeake Sampling Date: 5/5/2021

Applicant/Owner: Dominion State: VA Sampling Point: JD_W_005

Investigator(s): J. Daugustine, B. Harris Section, Township, Range:

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.744654 Long: -76.136382 Datum: WGS84

Soil Map Unit Name: 1 - Acredale silt loam, 0 to 1 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No x

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Data point taken within existing overhead utility easement.

Observed Classifications:

Cowardin: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- x Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- x Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- x Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- x Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): _____

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: JD_W_005

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Eleocharis palustris, Common Spike-Rush	40	Yes	OBL
2. Arundinaria gigantea, Giant Cane	30	Yes	FACW
3. Juncus effusus, Lamp Rush	15	No	OBL
4. Decodon verticillatus, Swamp-Loosestrife	5	No	OBL
5. Carex lurida, Shallow Sedge	5	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
	95 = Total Cover		
50% of total cover: 47.5	20% of total cover: 19		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	65	x 1 =	65
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		125 (B)

Prevalence Index = B/A = 1.32

Hydrophytic Vegetation Indicators:

- x 1 - Rapid Test for Hydrophytic Vegetation
- x 2 - Dominance Test is >50%
- x 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes x No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: JD_W_005

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5YR 4/2	100%					Clay loam	
2-17	2.5Y 4/1	98%	2.5Y 4/4	2%	C	M	Clay loam	
17-20	10YR 5/1	100%					Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes x No _____

Remarks:

Photograph Log

Date: 5/5/21

Feature Name: JD_W_005

Photograph Direction North

Comments:

Photograph Direction South

Comments:

Photograph Direction East

Comments:

Photograph Direction West

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Chesapeake/Chesapeake Sampling Date: 5/5/2021

Applicant/Owner: Dominion State: VA Sampling Point: JD_W05_UP

Investigator(s): J. Daugustine, B. Harris Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.744621 Long: -76.136683 Datum: WGS84

Soil Map Unit Name: 1 - Acredale silt loam, 0 to 1 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No x

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No x	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes _____	No x	
Wetland Hydrology Present?	Yes _____	No x	

Remarks:

Data point location taken at forested edge of existing overhead utility easement.

Observed Classifications:

Cowardin: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: JD_W_005 UP

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Arundinaria tecta, Switch Cane	40	Yes	FACW
2. Anthoxanthum odoratum, Large Sweet Vernal Grass	20	Yes	FACU
3. Solidago altissima, Tall Goldenrod	10	No	FACU
4. Microstegium vimineum, Japanese Stilt Grass	10	No	FAC
5. Eupatorium capillifolium, Dog-Fennel	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
	85 = Total Cover		
50% of total cover: 42.5	20% of total cover: 17		
Woody Vine Stratum (Plot size: 30 ft)			
1. Parthenocissus quinquefolia, Virginia-Creeper	15	Yes	FACU
2. Smilax rotundifolia, Horsebrier	10	Yes	FAC
3.			
4.			
5.			
	25 = Total Cover		
50% of total cover: 12.5	20% of total cover: 5		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	20	x 3 =	60
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	110 (A)		340 (B)

Prevalence Index = B/A = 3.09

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ____ No x

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: JD_W_005 UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 4/2	100%					Clay loam	
14-20	10YR 4/3	95%	10YR 5/6	5%	C	M	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No x

Remarks:

Soil contains redoximorphic features but the matrix is not depleted enough to meet any hydric soil indicators.

Photograph Log

Date: 5/5/21

Feature Name: JD_W_005_UP

Photograph Direction East

Comments:

Photograph Direction West

Comments:

Photograph Direction South

Comments:

Photograph Direction North

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/5/2021

Applicant/Owner: Dominion State: VA Sampling Point: JD_W_006

Investigator(s): J. Daugustine, B. Harris Section, Township, Range:

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Convex Slope (%): 2

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.74715 Long: -76.132314 Datum: WGS84

Soil Map Unit Name: 21 - Nawney silt loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Observed Classifications:
Cowardin: PFO

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- x Surface Water (A1)
- x High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- x Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes x	No _____	Depth (inches): 1
Water Table Present?	Yes x	No _____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes x	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: