

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 009a	
Date: September 22, 2020	
Description: PEM wetland Category 2 Facing North	

Wetland 009a	
Date: September 22, 2020	
Description: PEM wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 009a	
Date: September 22, 2020	
Description: PEM wetland Category 2 Facing South	

Wetland 009a	
Date: September 22, 2020	
Description: PEM wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 009a	
Date: September 22, 2020	
Description: PEM wetland Category 2 Soil Pit	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 009b	
Date: September 22, 2020	
Description: PSS wetland Category 2 Facing North	

Wetland 009b	
Date: September 22, 2020	
Description: PSS wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 009b	
Date: September 22, 2020	
Description: PSS wetland Category 2 Facing South	

Wetland 009b	
Date: September 22, 2020	
Description: PSS wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 009b	
Date: September 22, 2020	
Description: PSS wetland Category 2 Soil Pit	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 009c	
Date: September 22, 2020	
Description: PFO wetland Category 2 Facing North	

Wetland 009c	
Date: September 22, 2020	
Description: PFO wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 009c	
Date: September 22, 2020	
Description: PFO wetland Category 2 Facing South	

Wetland 009c	
Date: September 22, 2020	
Description: PFO wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 009c	
Date: September 22, 2020	
Description: PFO wetland Category 2 Soil Pit	

Wetland 010

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 22-Sep-20
Applicant/Owner: AEP State: OH Sampling Point: w-aeh-20200922-11
Investigator(s): AEH, WRL Section, Township, Range: S 20 T 14N R 14W
Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave Slope: 2.0 % / 63.4 °
Subregion (LRR or MLRA): LRR N Lat.: 39.76281 Long.: -82.09875 Datum: NAD83
Soil Map Unit Name: GWE - Guernsey-Westmoreland silt loams, 25 to 40 percent slopes NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☒ , or Hydrology ☒ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☒ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point w-aeh-20200921-11 point in to PEM wetland 010, a wet meadow with potentially problematic vegetation due to seasonality in wetland vegetation growth. Wetland fully delineated, located on graded/leveled field with fill dirt present=disturbed soils. Several drainage ditches dug through and around wetland=disturbed hydrology.	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>			
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____		
Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Multiple primary and secondary hydrology indicators present. Primary sources of hydrology are groundwater seepage evident throughout wetland and concentration of precipitation and surface runoff in geomorphic position. Hydrology disturbed by several drainage ditches dug through and around wetland perimeter, directing flow to a cuvert to flows northeast to intermittent Stream 003 that flows northeast to perennial Moxahala Creek that flows north to Muskingum River, a TNW.			

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)			
1. <u>Rosa multiflora</u>	5	<input checked="" type="checkbox"/> 100.0%	FACU
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
5 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Herb Stratum (Plot size: <u>5' r</u>)			
1. <u>Scirpus cyperinus</u>	50	<input checked="" type="checkbox"/> 46.3%	FACW
2. <u>Juncus effusus</u>	15	<input checked="" type="checkbox"/> 13.9%	FACW
3. <u>Solidago canadensis</u>	10	<input type="checkbox"/> 9.3%	FACU
4. <u>Solidago rugosa</u>	10	<input type="checkbox"/> 9.3%	FAC
5. <u>Eutrochium maculatum</u>	10	<input type="checkbox"/> 9.3%	FACW
6. <u>Eupatorium rotundifolium</u>	5	<input type="checkbox"/> 4.6%	FAC
7. <u>Euthamia graminifolia</u>	5	<input type="checkbox"/> 4.6%	FAC
8. <u>Symphyotrichum ericoides</u>	3	<input type="checkbox"/> 2.8%	FACU
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
108 = Total Cover			
Woody Vine Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
0 = 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 <u>0</u>	x 1 = <u>0</u>
FACW species <u>75</u>	x 2 = <u>150</u>
FAC species <u>20</u>	x 3 = <u>60</u>
FACU species <u>18</u>	x 4 = <u>72</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Total s: <u>113</u> (A)	<u>282</u> (B)
Prevalence Index = B/A = <u>2.496</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is ≤ 3.0 ¹

☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation ¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicator present as dominance test > 50%, dominant species are FACW and FACU

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-2	10YR	3/3	100						Silt Loam	
2-9	10YR	3/1	90	10YR	4/4	10	C	PL	Sandy Clay	distinct redox concentrations

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

Hydric soil indicator present as low chroma/low value matrix with distinct redox concentrations in pore linings in sandy soils. Shovel refusal at 9" depth due to gravel/fill dirt.

Upland 009

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 22-Sep-20
Applicant/Owner: AEP State: OH Sampling Point: upl-aeh-20200922-10
Investigator(s): AEH, WRL Section, Township, Range: S 20 T 14N R 14W
Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): concave Slope: 5.0 % / 78.7 °
Subregion (LRR or MLRA): LRR N Lat.: 39.76281 Long.: -82.09875 Datum: NAD83
Soil Map Unit Name: GWE - Guernsey-Westmoreland silt loams, 25 to 40 percent slopes NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☒ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Sample point Upland 009 (upl-aeh-20200922-10) point out to wetland 010, about 30' southeast of wetland boundary across field drive at lower elevation. Location in fill dirt area=disturbed soils. Not a wetland point as no wetland criteria met.	

Hydrology

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

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Herb Stratum (Plot size: <u>5' r</u>)			
1. <u>Onoclea sensibilis</u>	30	<input checked="" type="checkbox"/> 24.4%	FACW
2. <u>Setaria pumila</u>	30	<input checked="" type="checkbox"/> 24.4%	FAC
3. <u>Panicum dichotomiflorum</u>	15	<input checked="" type="checkbox"/> 12.2%	FACW
4. <u>Andropogon virginicus</u>	10	<input type="checkbox"/> 8.1%	FACU
5. <u>Rosa multiflora</u>	10	<input type="checkbox"/> 8.1%	FACU
6. <u>Trifolium pratense</u>	10	<input type="checkbox"/> 8.1%	FACU
7. <u>Rubus occidentalis</u>	5	<input type="checkbox"/> 4.1%	UPL
8. <u>Pycnanthemum virginianum</u>	5	<input type="checkbox"/> 4.1%	FAC
9. <u>Achillea millefolium</u>	5	<input type="checkbox"/> 4.1%	FACU
10. <u>Symphotrichum pilosum</u>	3	<input type="checkbox"/> 2.4%	FAC
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
123 = Total Cover			
Woody Vine Stratum (Plot size: <u>15' r</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
0 = 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 <u>0</u>	x 1 = <u>0</u>
FACW species <u>45</u>	x 2 = <u>90</u>
FAC species <u>38</u>	x 3 = <u>114</u>
FACU species <u>35</u>	x 4 = <u>140</u>
UPL species <u>5</u>	x 5 = <u>25</u>
Column Total s: <u>123</u> (A)	<u>369</u> (B)
Prevalence Index = B/A = <u>3.000</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicator present as dominance test > 50%, dominant species are FACW and FAC. Vegetation mowed recently resulting in any shrubby/woody species being low-growing, though not likely to significantly alter determination of hydrophytic vegetation indicators

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: **upl-aeH-20200922-10**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR	4/3	100				Silt Loam	
3-7	10YR	2/2	100				Silty Clay	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☒

Remarks:

No hydric soil indicators present. Shovel refusal at 7" due to gravel/fill dirt. Problematic/disturbed hydric soil indicator not used as no indicators of hydrology are present.

Wetland 010

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

9/22/2020

Field Id:

w-aeh-20200922-10

1	1
---	---

max 6 pts

subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- ☐ >50 acres (>20.2ha) (6 pts)
☐ 25 to <50 acres (10.1 to <20.2ha) (5 pts)
☐ 10 to <25 acres (4 to <10.1ha) (4 pts)
☐ 3 to <10 acres (1.2 to <4ha) (3 pts)
☐ 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
☒ 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
☐ <0.1 acres (0.04ha) (0 pts)

0.27

 acres

8	9
---	---

max 14 pts.

subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
☒ MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
☐ NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
☐ VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- ☐ VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
☒ LOW. Old field (>10 years), shrubland, young second growth forest. (5)
☐ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
☐ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

7.0	16.0
-----	------

max 30 pts.

subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- ☐ High pH groundwater (5)
☐ Other groundwater (3)
☒ Precipitation (1)
☐ Seasonal/Intermittent surface water (3)
☐ Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select one.

- ☐ >0.7 (27.6in) (3)
☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
☒ <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- ☐ None or none apparent (12)
☐ Recovered (7)
☒ Recovering (3)
☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- ☐ 100 year floodplain (1)
☒ Between stream/lake and other human use (1)
☐ Part of wetland/upland (e.g. forest), complex (1)
☐ Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- ☐ Semi- to permanently inundated/saturated (4)
☐ Regularly inundated/saturated (3)
☐ Seasonally inundated (2)
☒ Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed

- | | |
|---|--|
| <input checked="" type="checkbox"/> ditch | <input checked="" type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input checked="" type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other: |

10	26
----	----

max 20 pts.

subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- ☐ None or none apparent (4)
☒ Recovered (3)
☒ Recovering (2)
☐ Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- ☐ Excellent (7)
☐ Very good (6)
☐ Good (5)
☐ Moderately good (4)
☒ Fair (3)
☐ Poor to fair (2)
☐ Poor (1)

4c. Habitat alteration. Score one or double check and average.

- ☐ None or none apparent (9)
☒ Recovered (6)
☒ Recovering (3)
☐ Recent or no recovery (1)

Check all disturbances observed

- | | |
|--|---|
| <input checked="" type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input checked="" type="checkbox"/> clearcutting | <input checked="" type="checkbox"/> sedimentation |
| <input checked="" type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input checked="" type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

26

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

Wetland 010

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

9/22/2020

Field Id:

w-aeh-20200922-10

26

subtotal this page

0

26

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- ☐ Bog (10)
☐ Fen (10)
☐ Old growth forest (10)
☐ Mature forested wetland (5)
☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
☐ Lake Erie coastal/tributary wetland-restricted hydrology (5)
☐ Lake Plain Sand Prairies (Oak Openings) (10)
☐ Relict Wet Prairies (10)
☐ Known occurrence state/federal threatened or endangered species (10)
☐ Significant migratory songbird/water fowl habitat or usage (10)
☐ Category 1 Wetland. See Question 5 Qualitative Rating (-10)

2

28

max 20pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
☐ Emergent
☐ Shrub
☐ Forest
☐ Mudflats
☐ Open water
☐ Other

6b. horizontal (plan view) Interspersions.

Select only one.

- ☐ High (5)
☐ Moderately high(4)
☐ Moderate (3)
☐ Moderately low (2)
☐ Low (1)
☒ None (0)

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

- ☐ Extensive >75% cover (-5)
☐ Moderate 25-75% cover (-3)
☐ Sparse 5-25% cover (-1)
☐ Nearly absent <5% cover (0)
☒ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ 0 Vegetated hummocks/tussocks
☐ 0 Coarse woody debris >15cm (6in)
☐ 0 Standing dead >25cm (10in) dbh
☐ 0 Amphibian breeding pools

Vegetation Community Cover Scale

- 0 Absent or comprises <0.1ha (0.2471 acres) contiguous area
1 Present and either comprises small part of wetland's 1 vegetation and is of moderate quality, or comprises a significant part but is of low quality
2 Present and either comprises significant part of wetland's 2 vegetation and is of moderate quality or comprises a small part and is of high quality
3 Present and comprises significant part, or more, of wetland's 3 vegetation and is of high quality

Narrative Description of Vegetation Quality

Low spp diversity and/or predominance of nonnative or low disturbance tolerant native species

Native spp are dominant component of the vegetation, mod although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp to

A predominance of native species, with nonnative spp high and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

- 0 Absent <0.1ha (0.247 acres)
1 Low 0.1 to <1ha (0.247 to 2.47 acres)
2 Moderate 1 to <4ha (2.47 to 9.88 acres)
3 High 4ha (9.88 acres) or more

Microtopography Cover Scale

- 0 Absent
1 Present very small amounts or if more common of marginal quality
2 Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3 Present in moderate or greater amounts and of highest quality

Category 1

28 GRAND TOTAL(max 100 pts)

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 010	
Date: September 22, 2020	
Description: PEM wetland Category 1 Facing North	

Wetland 010	
Date: September 22, 2020	
Description: PEM wetland Category 1 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 010	
Date: September 22, 2020	
Description: PEM wetland Category 1 Facing South	

Wetland 010	
Date: September 22, 2020	
Description: PEM wetland Category 1 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 010	
Date: September 22, 2020	
Description: PEM wetland Category 1 Soil Pit	

Wetland 011

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 22-Sep-20
Applicant/Owner: AEP State: OH Sampling Point: w-aeH-20200922-10
Investigator(s): AEH, WRL Section, Township, Range: S 20 T 14N R 14W
Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): concave Slope: 5.0 % / 78.7 °
Subregion (LRR or MLRA): LRR N Lat.: 39.76454 Long.: -82.10100 Datum: NAD83
Soil Map Unit Name: GWE - Guernsey-Westmoreland silt loams, 25 to 40 percent slopes NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☒ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point w-aeH-20200921-10 point in to PEM wetland 011, in seepage area of excavated hillside = disturbed soils, at base of new structure. Wetland extends to east to intermittent Stream 004 outside study area.	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>			
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <u>14</u>		
Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Multiple primary and secondary hydrology indicators present. Primary sources of hydrology are precipitation and concentration of surface runoff in geomorphic position and groundwater seepage from excavated hillside. Wetland drains to east directly to intermittent Stream 004 that flows northeast to Moxahala Creek that flows north to Muskingum River, a TNW.			

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Herb Stratum (Plot size: <u>5' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <u>Scirpus cyperinus</u>	60	<input checked="" type="checkbox"/> 60.0%	FACW
2. <u>Panicum dichotomiflorum</u>	20	<input checked="" type="checkbox"/> 20.0%	FACW
3. <u>Microstegium vimineum</u>	10	<input type="checkbox"/> 10.0%	FAC
4. <u>Solidago gigantea</u>	5	<input type="checkbox"/> 5.0%	FACW
5. <u>Symphotrichum lateriflorum</u>	5	<input type="checkbox"/> 5.0%	FACW
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Woody Vine Stratum (Plot size: <u>15' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
0 = 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 <u>0</u>	x 1 = <u>0</u>
FACW species <u>90</u>	x 2 = <u>180</u>
FAC species <u>10</u>	x 3 = <u>30</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>210</u> (B)
Prevalence Index = B/A = <u>2.100</u>	

Hydrophytic Vegetation Indicators:

☒ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicator present as rapid test, dominant species are FACW. Sphagnum sp. present but not included in dominance calculations as not a vascular plant.

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-1	2.5Y	4/3	100						Silt Loam	
1-10	N	2.5/1	90	10YR	4/6	10	C	PL	Clay Loam	prominent redox concentrations
10-15	10Y	3/1	80	10YR	4/3	20	C	PL	Clay	prominent redox concentrations

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

Hydric soil indicators present as low chroma/low value matrix with prominent redox concentrations in pore linings, and hydrogen sulfide odors.

Upland 010

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 22-Sep-20
 Applicant/Owner: AEP State: OH Sampling Point: upl-aeh-20200922-09
 Investigator(s): AEH, WRL Section, Township, Range: S 20 T 14N R 14W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): convex Slope: 10.0 % / 84.3 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.76451 Long.: -82.10093 Datum: NAD83
 Soil Map Unit Name: GWE - Guernsey-Westmoreland silt loams, 25 to 40 percent slopes NWI classification: N/A

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

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Sample point Upland 010 (upl-aeh-20200922-09) point out to wetland 011, about 5' southeast of wetland boundary at higher elevation. Location on potential spoils pile, coal fines present in surrounding area. Not a wetland point as hydrophytic vegetation and hydrology criteria not met.	

Hydrology

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

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <u>Acer rubrum</u>	40	<input checked="" type="checkbox"/> 80.0%	FAC
2. <u>Acer saccharum</u>	10	<input checked="" type="checkbox"/> 20.0%	FACU
3. _____	0	<input type="checkbox"/> 0.0%	
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
8. _____	0	<input type="checkbox"/> 0.0%	
50 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)			
1. <u>Fraxinus americana</u>	15	<input checked="" type="checkbox"/> 50.0%	FACU
2. <u>Corylus americana</u>	10	<input checked="" type="checkbox"/> 33.3%	FACU
3. <u>Acer saccharum</u>	5	<input type="checkbox"/> 16.7%	FACU
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
8. _____	0	<input type="checkbox"/> 0.0%	
9. _____	0	<input type="checkbox"/> 0.0%	
10. _____	0	<input type="checkbox"/> 0.0%	
30 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	
2. _____	0	<input type="checkbox"/> 0.0%	
3. _____	0	<input type="checkbox"/> 0.0%	
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
0 = Total Cover			
Herb Stratum (Plot size: <u>5' r</u>)			
1. <u>Microstegium vimineum</u>	50	<input checked="" type="checkbox"/> 56.8%	FAC
2. <u>Lactuca biennis</u>	30	<input checked="" type="checkbox"/> 34.1%	FACU
3. <u>Phytolacca americana</u>	5	<input type="checkbox"/> 5.7%	FACU
4. <u>Symphyotrichum pilosum</u>	3	<input type="checkbox"/> 3.4%	FAC
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
8. _____	0	<input type="checkbox"/> 0.0%	
9. _____	0	<input type="checkbox"/> 0.0%	
10. _____	0	<input type="checkbox"/> 0.0%	
11. _____	0	<input type="checkbox"/> 0.0%	
12. _____	0	<input type="checkbox"/> 0.0%	
88 = Total Cover			
Woody Vine Stratum (Plot size: <u>15' r</u>)			
1. <u>Toxicodendron radicans</u>	20	<input checked="" type="checkbox"/> 100.0%	FAC
2. _____	0	<input type="checkbox"/> 0.0%	
3. _____	0	<input type="checkbox"/> 0.0%	
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
20 = 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: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 42.9% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>113</u>	x 3 = <u>339</u>
FACU species <u>75</u>	x 4 = <u>300</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Total s: <u>188</u> (A)	<u>639</u> (B)
Prevalence Index = B/A = <u>3.399</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0** ¹

☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation ¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☐ No ☒

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

No hydrophytic vegetation indicators present as dominance test is not > 50%, dominant species are FAC and FACU, and prevalence index > 3.0

US Army Corps of Engineers Eastern Mountains and Piedmont - Version 2.0

Wetland 011

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

9/22/2020

0 0

max 6 pts

subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- ☐ >50 acres (>20.2ha) (6 pts)
☐ 25 to <50 acres (10.1 to <20.2ha) (5 pts)
☐ 10 to <25 acres (4 to <10.1ha) (4 pts)
☐ 3 to <10 acres (1.2 to <4ha) (3 pts)
☐ 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
☐ 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
☒ <0.1 acres (0.04ha) (0 pts)

Field Id:

w-aeh-20200922-11

0.01 acres
1

5 5

max 14 pts.

subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
☐ MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
☒ NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
☒ VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- ☐ VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
☒ LOW. Old field (>10 years), shrubland, young second growth forest. (5)
☐ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
☐ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

9.0 14.0

max 30 pts.

subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- ☐ High pH groundwater (5)
☒ Other groundwater (3)
☒ Precipitation (1)
☐ Seasonal/Intermittent surface water (3)
☐ Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select one.

- ☐ >0.7 (27.6in) (3)
☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
☒ <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- ☐ None or none apparent (12)
☐ Recovered (7)
☒ Recovering (3)
☒ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- ☐ 100 year floodplain (1)
☒ Between stream/lake and other human use (1)
☐ Part of wetland/upland (e.g. forest), complex (1)
☐ Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- ☐ Semi- to permanently inundated/saturated (4)
☐ Regularly inundated/saturated (3)
☐ Seasonally inundated (2)
☒ Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed

- | | |
|---|--|
| <input checked="" type="checkbox"/> ditch | <input checked="" type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input checked="" type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other: |

7 21

max 20 pts.

subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- ☐ None or none apparent (4)
☐ Recovered (3)
☒ Recovering (2)
☐ Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- ☐ Excellent (7)
☐ Very good (6)
☐ Good (5)
☐ Moderately good (4)
☐ Fair (3)
☒ Poor to fair (2)
☐ Poor (1)

4c. Habitat alteration. Score one or double check and average.

- ☐ None or none apparent (9)
☐ Recovered (6)
☒ Recovering (3)
☐ Recent or no recovery (1)

Check all disturbances observed

- | | |
|--|---|
| <input checked="" type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input checked="" type="checkbox"/> clearcutting | <input checked="" type="checkbox"/> sedimentation |
| <input checked="" type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input checked="" type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

21

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

Wetland 011

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

9/22/2020

Field Id:

w-aeh-20200922-11

21

subtotal this page

0

21

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- ☐ Bog (10)
☐ Fen (10)
☐ Old growth forest (10)
☐ Mature forested wetland (5)
☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
☐ Lake Erie coastal/tributary wetland-restricted hydrology (5)
☐ Lake Plain Sand Prairies (Oak Openings) (10)
☐ Relict Wet Prairies (10)
☐ Known occurrence state/federal threatened or endangered species (10)
☐ Significant migratory songbird/water fowl habitat or usage (10)
☐ Category 1 Wetland. See Question 5 Qualitative Rating (-10)

2

23

max 20pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
☐ Emergent
☐ Shrub
☐ Forest
☐ Mudflats
☐ Open water
☐ Other

6b. horizontal (plan view) Interspersions.

Select only one.

- ☐ High (5)
☐ Moderately high(4)
☐ Moderate (3)
☐ Moderately low (2)
☐ Low (1)
☒ None (0)

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

- ☐ Extensive >75% cover (-5)
☐ Moderate 25-75% cover (-3)
☐ Sparse 5-25% cover (-1)
☐ Nearly absent <5% cover (0)
☒ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ 0 Vegetated hummocks/tussocks
☐ 0 Coarse woody debris >15cm (6in)
☐ 0 Standing dead >25cm (10in) dbh
☐ 0 Amphibian breeding pools

Vegetation Community Cover Scale

- 0 Absent or comprises <0.1ha (0.2471 acres) contiguous area
1 Present and either comprises small part of wetland's 1 vegetation and is of moderate quality, or comprises a significant part but is of low quality
2 Present and either comprises significant part of wetland's 2 vegetation and is of moderate quality or comprises a small part and is of high quality
3 Present and comprises significant part, or more, of wetland's 3 vegetation and is of high quality

Narrative Description of Vegetation Quality

Low spp diversity and/or predominance of nonnative or low disturbance tolerant native species

Native spp are dominant component of the vegetation, mod although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp to

A predominance of native species, with nonnative spp high and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

- 0 Absent <0.1ha (0.247 acres)
1 Low 0.1 to <1ha (0.247 to 2.47 acres)
2 Moderate 1 to <4ha (2.47 to 9.88 acres)
3 High 4ha (9.88 acres) or more

Microtopography Cover Scale

- 0 Absent
1 Present very small amounts or if more common of marginal quality
2 Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3 Present in moderate or greater amounts and of highest quality

Category 1

23 GRAND TOTAL(max 100 pts)

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 011	
Date: September 22, 2020	
Description: PEM wetland Category 1 Facing North	

Wetland 011	
Date: September 22, 2020	
Description: PEM wetland Category 1 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 011	
Date: September 22, 2020	
Description: PEM wetland Category 1 Facing South	

Wetland 011	
Date: September 22, 2020	
Description: PEM wetland Category 1 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 011	
Date: September 22, 2020	
Description: PEM wetland Category 1 Soil Pit	

Wetland 012

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: AEP Crooksville-Newark City/County: Perry County Sampling Date: 08-Oct-20
Applicant/Owner: AEP State: OH Sampling Point: w-jbl-20201008-01
Investigator(s): jbl, rcm Section, Township, Range: S 18 T 14N R 14W
Landform (hillslope, terrace, etc.): Valley bottom Local relief (concave, convex, none): concave Slope: 1.0% / 0.6 °
Subregion (LRR or MLRA): LRR N Lat.: 39.78591 Long.: -82.11766 Datum: NAD 83
Soil Map Unit Name: WsF - Westmoreland-Guernsey silt loams, 40 to 70 percent slopes NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☒ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☒ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point (w-jbl-20201008-01) in to PSS Wetland 012 in 2 drainage swales of valley botom. Old mining area (disturbed soils) now cow pasture (potentially problematic vegetation). Wetland extends to east outside study area to NWI-mapped PEM1C pond.	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <u> </u>		
Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <u>15</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Three secondary hydrology indicators present. Primary source of hydrology is concentration of precipitation and surface runoff in geomorphic position. Wetland extends to east to old pond that drains northeast to NHD-mapped stream that flows east to Moxahala Creek that flows north to Muskingum River, a TNW.			

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15'</u>)			
1. <u>Lindera benzoin</u>	40	<input checked="" type="checkbox"/> 100.0%	FAC
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
40 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____		<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Herb Stratum (Plot size: <u>5'</u>)			
1. <u>Persicaria perfoliata</u>	40	<input checked="" type="checkbox"/> 36.4%	FAC
2. <u>Pilea pumila</u>	30	<input checked="" type="checkbox"/> 27.3%	FACW
3. <u>Cyperus esculentus</u>	15	<input type="checkbox"/> 13.6%	FACW
4. <u>Impatiens capensis</u>	15	<input type="checkbox"/> 13.6%	FACW
5. <u>Leersia virginica</u>	10	<input type="checkbox"/> 9.1%	FACW
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
110 = Total Cover			
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. <u>Toxicodendron radicans</u>	5	<input checked="" type="checkbox"/> 100.0%	FAC
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
5 = 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 <u>0</u>	x 1 = <u>0</u>
FACW species <u>70</u>	x 2 = <u>140</u>
FAC species <u>85</u>	x 3 = <u>255</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>155</u> (A)	<u>395</u> (B)
Prevalence Index = B/A = <u>2.548</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicator present as dominance test > 50%. Dominant species are FACW and FAC.

Soil

Sampling Point: **w-jbl-20201008-01**

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-5	10YR	4/2	95	10YR	4/6	5	C	PL	Clay Loam	distinct redox concentrations
5-17	10YR	4/1	80	10YR	4/6	20	C	M	Clay Loam	distinct redox concentrations

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

Hydric soil indicators present as low chroma/high value depleted matrix with required redox concentrations, in closed depressions subject to ponding.

Upland 011

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: AEP Crooksville-Newark City/County: Perry County Sampling Date: 08-Oct-20
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-20201008-01
 Investigator(s): jbl, rcm Section, Township, Range: S 18 T 14N R 14W
 Landform (hillslope, terrace, etc.): Mound Local relief (concave, convex, none): convex Slope: 5.0% / 2.9 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.78051 Long.: -82.12486 Datum: NAD 83
 Soil Map Unit Name: GWD - Guernsey-Westmoreland silt loams, 15 to 25 percent slopes NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Upland 011 on ridgetop, point out to Wetland 12 between two patches. Not a wetland point as no wetland criteria met.	

Hydrology

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

Tree Stratum (Plot size: <u>10'</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <u>Juglans nigra</u>	50	<input checked="" type="checkbox"/> 71.4%	FACU
2. <u>Celtis occidentalis</u>	20	<input checked="" type="checkbox"/> 28.6%	FACU
3. _____	0	<input type="checkbox"/> 0.0%	
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
8. _____	0	<input type="checkbox"/> 0.0%	
70 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>10'</u>)			
1. <u>Lindera benzoin</u>	25	<input checked="" type="checkbox"/> 41.7%	FAC
2. <u>Elaeagnus angustifolia</u>	15	<input checked="" type="checkbox"/> 25.0%	FACU
3. <u>Rosa multiflora</u>	20	<input checked="" type="checkbox"/> 33.3%	FACU
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
8. _____	0	<input type="checkbox"/> 0.0%	
9. _____	0	<input type="checkbox"/> 0.0%	
10. _____	0	<input type="checkbox"/> 0.0%	
60 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	
2. _____	0	<input type="checkbox"/> 0.0%	
3. _____	0	<input type="checkbox"/> 0.0%	
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
0 = Total Cover			
Herb Stratum (Plot size: <u>5'</u>)			
1. <u>Persicaria pensylvanica</u>	60	<input checked="" type="checkbox"/> 70.6%	FACW
2. <u>Poa pratensis</u>	25	<input checked="" type="checkbox"/> 29.4%	FACU
3. _____	0	<input type="checkbox"/> 0.0%	
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
8. _____	0	<input type="checkbox"/> 0.0%	
9. _____	0	<input type="checkbox"/> 0.0%	
10. _____	0	<input type="checkbox"/> 0.0%	
11. _____	0	<input type="checkbox"/> 0.0%	
12. _____	0	<input type="checkbox"/> 0.0%	
85 = Total Cover			
Woody Vine Stratum (Plot size: <u>10'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	
2. _____	0	<input type="checkbox"/> 0.0%	
3. _____	0	<input type="checkbox"/> 0.0%	
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
0 = 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: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 28.6% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>60</u>	x 2 = <u>120</u>
FAC species <u>25</u>	x 3 = <u>75</u>
FACU species <u>130</u>	x 4 = <u>520</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>215</u> (A)	<u>715</u> (B)
Prevalence Index = B/A = <u>3.326</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☐ No ☒

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

plot confined to ridgetop, and not adjacent wetland lowland area. No hydrophytic vegetation indicators present, dominance test <50%, prevalence index >3.0. Dominant species are FACW, FAC and FACU.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: **upl-jbl-20201008-01**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR	3/3	100				Loam	
4-16	10YR	4/4	100				Silt Loam	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☒

Remarks:

No hydric soil indicators present.

Wetland 012

Site: AEP Crooksville-Newark Tline

Rater(s): J. Lubbers; R. Massa

Date:

10/8/2020

Field Id:

w-jbl-20201008-01

1 **1**

max 6 pts

subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- ☐ >50 acres (>20.2ha) (6 pts)
☐ 25 to <50 acres (10.1 to <20.2ha) (5 pts)
☐ 10 to <25 acres (4 to <10.1ha) (4 pts)
☐ 3 to <10 acres (1.2 to <4ha) (3 pts)
☐ 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
☒ 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
☐ <0.1 acres (0.04ha) (0 pts)

0.18 acres

4 **5**

max 14 pts.

subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
☐ MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
☒ NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
☐ VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- ☐ VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
☒ LOW. Old field (>10 years), shrubland, young second growth forest. (5)
☐ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
☒ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

7.0 **12.0**

max 30 pts.

subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- ☐ High pH groundwater (5)
☐ Other groundwater (3)
☒ Precipitation (1)
☐ Seasonal/Intermittent surface water (3)
☐ Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select one.

- ☐ >0.7 (27.6in) (3)
☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
☒ <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- ☐ None or none apparent (12)
☐ Recovered (7)
☒ Recovering (3)
☒ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- ☐ 100 year floodplain (1)
☒ Between stream/lake and other human use (1)
☐ Part of wetland/upland (e.g. forest), complex (1)
☐ Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- ☐ Semi- to permanently inundated/saturated (4)
☒ Regularly inundated/saturated (3)
☐ Seasonally inundated (2)
☒ Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed

- | | |
|---|---|
| <input checked="" type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input checked="" type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input checked="" type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input checked="" type="checkbox"/> Other: cattle |

6 **18**

max 20 pts.

subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- ☐ None or none apparent (4)
☐ Recovered (3)
☐ Recovering (2)
☒ Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- ☐ Excellent (7)
☐ Very good (6)
☐ Good (5)
☐ Moderately good (4)
☒ Fair (3)
☐ Poor to fair (2)
☐ Poor (1)

4c. Habitat alteration. Score one or double check and average.

- ☐ None or none apparent (9)
☐ Recovered (6)
☒ Recovering (3)
☒ Recent or no recovery (1)

Check all disturbances observed

- | | |
|---|---|
| <input checked="" type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal |
| <input checked="" type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input checked="" type="checkbox"/> clearcutting | <input checked="" type="checkbox"/> sedimentation |
| <input checked="" type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input checked="" type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

18

subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

Wetland 012

Site: AEP Crooksville-Newark Tline

Rater(s): J. Lubbers; R. Massa

Date:

10/8/2020

Field Id:

w-jbl-20201008-01

18

subtotal this page

0 18

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- ☐ Bog (10)
- ☐ Fen (10)
- ☐ Old growth forest (10)
- ☐ Mature forested wetland (5)
- ☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- ☐ Lake Erie coastal/tributary wetland-restricted hydrology (5)
- ☐ Lake Plain Sand Prairies (Oak Openings) (10)
- ☐ Relict Wet Prairies (10)
- ☐ Known occurrence state/federal threatened or endangered species (10)
- ☐ Significant migratory songbird/water fowl habitat or usage (10)
- ☐ Category 1 Wetland. See Question 5 Qualitative Rating (-10)

3 21

max 20pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☐ 0 Emergent
- ☐ 1 Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☒ Low (1)
- ☐ None (0)

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

- ☐ Extensive >75% cover (-5)
- ☐ Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☒ Nearly absent <5% cover (0)
- ☐ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ 0 Vegetated hummocks/tussocks
- ☐ 1 Coarse woody debris >15cm (6in)
- ☐ 0 Standing dead >25cm (10in) dbh
- ☐ 0 Amphibian breeding pools

Vegetation Community Cover Scale

- 0 Absent or comprises <0.1ha (0.2471 acres) contiguous area
- 1 Present and either comprises small part of wetland's 1 vegetation and is of moderate quality, or comprises a significant part but is of low quality
- 2 Present and either comprises significant part of wetland's 2 vegetation and is of moderate quality or comprises a small part and is of high quality
- 3 Present and comprises significant part, or more, of wetland's 3 vegetation and is of high quality

Narrative Description of Vegetation Quality

Low spp diversity and/or predominance of nonnative or low disturbance tolerant native species

Native spp are dominant component of the vegetation, mod although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp to

A predominance of native species, with nonnative spp high and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

- 0 Absent <0.1ha (0.247 acres)
- 1 Low 0.1 to <1ha (0.247 to 2.47 acres)
- 2 Moderate 1 to <4ha (2.47 to 9.88 acres)
- 3 High 4ha (9.88 acres) or more


Microtopography Cover Scale

- 0 Absent
- 1 Present very small amounts or if more common of marginal quality
- 2 Present in moderate amounts, but not of highest quality or in small amounts of highest quality
- 3 Present in moderate or greater amounts and of highest quality

Category 1

21 GRAND TOTAL(max 100 pts)

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 012	
Date: October 8, 2020	
Description: PSS wetland Category 1 Facing North	

Wetland 012	
Date: October 8, 2020	
Description: PSS wetland Category 1 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 012	
Date: October 8, 2020	
Description: PSS wetland Category 1 Facing South	

Wetland 012	
Date: October 8, 2020	
Description: PSS wetland Category 1 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 012	
Date: October 8, 2020	
Description: PSS wetland Category 1 Soil Pit	

Wetland 013

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: AEP Crooksville-Newark City/County: Perry County Sampling Date: 08-Oct-20
Applicant/Owner: AEP State: OH Sampling Point: w-jbl-20201008-02
Investigator(s): jbl, rcm Section, Township, Range: S 7 T 14N R 14W
Landform (hillslope, terrace, etc.): Undulating Local relief (concave, convex, none): concave Slope: 0.0% / 0.0 °
Subregion (LRR or MLRA): LRR N Lat.: 39.78891 Long.: -82.11880 Datum: NAD 83
Soil Map Unit Name: Bethesda-Pits, surface mine complex, 25 to 70 percent slopes, unreclaimed NWI classification: N/A

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

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point (w-jbl-20201008-02) in to PSS Wetland 013 in swale on prior mining land (disturbed soils). Wetland fully delineated, drains to stream 011.	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0</u>		
Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Multiple primary and secondary hydrology indicators present. Primary source of hydrology is concentration of precipitation and surface runoff in geomorphic position. Wetland abuts intermittent Stream 011 that flows north NHD-mapped stream that flows east to Moxahala Creek that flows north to Muskingum River, a TNW.			

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <u>Acer rubrum</u>	15	<input checked="" type="checkbox"/> 100.0%	FAC
2. _____	0	<input type="checkbox"/> 0.0%	
3. _____	0	<input type="checkbox"/> 0.0%	
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
8. _____	0	<input type="checkbox"/> 0.0%	
15 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15'</u>)			
1. <u>Liriodendron tulipifera</u>	25	<input checked="" type="checkbox"/> 38.5%	FACU
2. <u>Acer rubrum</u>	20	<input checked="" type="checkbox"/> 30.8%	FAC
3. <u>Spiraea tomentosa</u>	20	<input checked="" type="checkbox"/> 30.8%	FACW
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
8. _____	0	<input type="checkbox"/> 0.0%	
9. _____	0	<input type="checkbox"/> 0.0%	
10. _____	0	<input type="checkbox"/> 0.0%	
65 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	
2. _____	0	<input type="checkbox"/> 0.0%	
3. _____	0	<input type="checkbox"/> 0.0%	
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
0 = Total Cover			
Herb Stratum (Plot size: <u>5'</u>)			
1. <u>Leersia oryzoides</u>	40	<input checked="" type="checkbox"/> 40.0%	OBL
2. <u>Scirpus cyperinus</u>	35	<input checked="" type="checkbox"/> 35.0%	FACW
3. <u>Impatiens capensis</u>	25	<input checked="" type="checkbox"/> 25.0%	FACW
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
8. _____	0	<input type="checkbox"/> 0.0%	
9. _____	0	<input type="checkbox"/> 0.0%	
10. _____	0	<input type="checkbox"/> 0.0%	
11. _____	0	<input type="checkbox"/> 0.0%	
12. _____	0	<input type="checkbox"/> 0.0%	
100 = Total Cover			
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	
2. _____	0	<input type="checkbox"/> 0.0%	
3. _____	0	<input type="checkbox"/> 0.0%	
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
0 = 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: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 85.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>40</u>	x 1 = <u>40</u>
FACW species <u>80</u>	x 2 = <u>160</u>
FAC species <u>35</u>	x 3 = <u>105</u>
FACU species <u>25</u>	x 4 = <u>100</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>180</u> (A)	<u>405</u> (B)
Prevalence Index = B/A = <u>2.250</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicator present as dominance test > 50%. Dominant species are OBL, FACW, FAC and FACU.

Soil

Sampling Point: **w-jbl-20201008-02**

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

Depth (inches)	Matrix			Redox Features				Loc ²	Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹			
0-16	10Y	4/2	85	10YR	4/6	15	D	PL	Sandy Clay Loam	distinct redox concentrations

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

Hydric soil indicators present as low chroma matrix with required redox concentrations in sandy soil.

Upland 012

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: AEP Crooksville-Newark City/County: Perry County Sampling Date: 08-Oct-20
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-20201008-02
 Investigator(s): jbl, rcm Section, Township, Range: S 7 T 14N R 14W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): undulating Slope: 25.0% / 14.0 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.78920 Long.: -82.11914 Datum: NAD 83
 Soil Map Unit Name: Bethesda-Pits, surface mine complex, 25 to 70 percent slopes, unreclaimed NWI classification: N/A

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

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Upland 012 point out to Wetland 013 on hillside about 5' west of boundary. Prior strip-mined land not reclaimed=disturbed soils. Not a wetland point as no wetland criteria met.	

Hydrology

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

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

Sampling Point: **upl-ibl-20201008-02**

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. Robinia pseudoacacia	25	<input checked="" type="checkbox"/> 100.0%	FACU
2.	0	<input type="checkbox"/> 0.0%	
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	
25 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: 10')			
1. Liriodendron tulipifera	45	<input checked="" type="checkbox"/> 47.4%	FACU
2. Rubus allegheniensis	50	<input checked="" type="checkbox"/> 52.6%	FACU
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	
9.	0	<input type="checkbox"/> 0.0%	
10.	0	<input type="checkbox"/> 0.0%	
95 = Total Cover			
Shrub Stratum (Plot size:)			
1.	0	<input type="checkbox"/> 0.0%	
2.	0	<input type="checkbox"/> 0.0%	
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
0 = Total Cover			
Herb Stratum (Plot size: 5')			
1. Impatiens capensis	35	<input checked="" type="checkbox"/> 50.0%	FACW
2. Dichanthelium clandestinum	35	<input checked="" type="checkbox"/> 50.0%	FAC
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	
9.	0	<input type="checkbox"/> 0.0%	
10.	0	<input type="checkbox"/> 0.0%	
11.	0	<input type="checkbox"/> 0.0%	
12.	0	<input type="checkbox"/> 0.0%	
70 = Total Cover			
Woody Vine Stratum (Plot size: 10')			
1.	0	<input type="checkbox"/> 0.0%	
2.	0	<input type="checkbox"/> 0.0%	
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
0 = 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: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 40.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>35</u>	x 2 = <u>70</u>
FAC species <u>35</u>	x 3 = <u>105</u>
FACU species <u>120</u>	x 4 = <u>480</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>190</u> (A)	<u>655</u> (B)
Prevalence Index = B/A = <u>3.447</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☐ No ☒

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

plot confined to hillside and not wetland swale. No hydrophytic vegetation indicators present, dominance test <50%, prevalence index >3.0. Dominant species are FACW, FAC and FACU

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: **upl-jbl-20201008-02**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)		Color (moist)	%	Type ¹	Loc ²		
0-8	10YR	3/3	100				Sandy Loam	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if observed):

Type: 8

Depth (inches): rock

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil indicators present. Shovel refusal at 8" due to rock.

Wetland 013

Site: AEP Crooksville-Newark Tline

Rater(s): J. Lubbers; R. Massa

Date:

10/8/2020

Field Id:

w-jbl-20201008-02

2 2

Metric 1. Wetland Area (size).

max 6 pts

subtotal

Select one size class and assign score.

- ☐ >50 acres (>20.2ha) (6 pts)
☐ 25 to <50 acres (10.1 to <20.2ha) (5 pts)
☐ 10 to <25 acres (4 to <10.1ha) (4 pts)
☐ 3 to <10 acres (1.2 to <4ha) (3 pts)
☒ 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
☐ 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
☐ <0.1 acres (0.04ha) (0 pts)

0.58 acres

8 10

Metric 2. Upland buffers and surrounding land use.

max 14 pts.

subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
☒ MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
☐ NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
☐ VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- ☒ VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
☐ LOW. Old field (>10 years), shrubland, young second growth forest. (5)
☐ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
☒ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

8.0 18.0

Metric 3. Hydrology.

max 30 pts.

subtotal

3a. Sources of Water. Score all that apply.

- ☐ High pH groundwater (5)
☐ Other groundwater (3)
☒ Precipitation (1)
☐ Seasonal/Intermittent surface water (3)
☐ Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select one.

- ☐ >0.7 (27.6in) (3)
☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
☒ <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- ☐ None or none apparent (12)
☐ Recovered (7)
☒ Recovering (3)
☒ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- ☐ 100 year floodplain (1)
☒ Between stream/lake and other human use (1)
☐ Part of wetland/upland (e.g. forest), complex (1)
☒ Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- ☐ Semi- to permanently inundated/saturated (4)
☒ Regularly inundated/saturated (3)
☐ Seasonally inundated (2)
☒ Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed

- | | |
|---|---|
| <input checked="" type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input checked="" type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input checked="" type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other: cattle |

6.5 24.5

Metric 4. Habitat Alteration and Development.

max 20 pts.

subtotal

4a. Substrate disturbance. Score one or double check and average.

- ☐ None or none apparent (4)
☐ Recovered (3)
☒ Recovering (2)
☒ Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- ☐ Excellent (7)
☐ Very good (6)
☐ Good (5)
☐ Moderately good (4)
☒ Fair (3)
☐ Poor to fair (2)
☐ Poor (1)

4c. Habitat alteration. Score one or double check and average.

- ☐ None or none apparent (9)
☐ Recovered (6)
☒ Recovering (3)
☒ Recent or no recovery (1)

Check all disturbances observed

- | | |
|---|---|
| <input type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input checked="" type="checkbox"/> clearcutting | <input checked="" type="checkbox"/> sedimentation |
| <input checked="" type="checkbox"/> selective cutting | <input checked="" type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input checked="" type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

24.5

subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

Wetland 013

Site: AEP Crooksville-Newark Tline

Rater(s): J. Lubbers; R. Massa

Date:

10/8/2020

24.5

subtotal this page

0 24.5

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- ☐ Bog (10)
- ☐ Fen (10)
- ☐ Old growth forest (10)
- ☐ Mature forested wetland (5)
- ☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- ☐ Lake Erie coastal/tributary wetland-restricted hydrology (5)
- ☐ Lake Plain Sand Prairies (Oak Openings) (10)
- ☐ Relict Wet Prairies (10)
- ☐ Known occurrence state/federal threatened or endangered species (10)
- ☐ Significant migratory songbird/water fowl habitat or usage (10)
- ☐ Category 1 Wetland. See Question 5 Qualitative Rating (-10)

3 27.5

max 20pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☐ 0 Emergent
- ☐ 1 Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☒ Low (1)
- ☐ None (0)

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

- ☐ Extensive >75% cover (-5)
- ☐ Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☒ Nearly absent <5% cover (0)
- ☐ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ 0 Vegetated hummocks/tussocks
- ☐ 1 Coarse woody debris >15cm (6in)
- ☐ 0 Standing dead >25cm (10in) dbh
- ☐ 0 Amphibian breeding pools

Field Id:

w-jbl-20201008-02

Vegetation Community Cover Scale

- 0 Absent or comprises <0.1ha (0.2471 acres) contiguous area
- 1 Present and either comprises small part of wetland's 1 vegetation and is of moderate quality, or comprises a significant part but is of low quality
- 2 Present and either comprises significant part of wetland's 2 vegetation and is of moderate quality or comprises a small part and is of high quality
- 3 Present and comprises significant part, or more, of wetland's 3 vegetation and is of high quality

Narrative Description of Vegetation Quality

Low spp diversity and/or predominance of nonnative or low disturbance tolerant native species

Native spp are dominant component of the vegetation, mod although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp to

A predominance of native species, with nonnative spp high and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

- 0 Absent <0.1ha (0.247 acres)
- 1 Low 0.1 to <1ha (0.247 to 2.47 acres)
- 2 Moderate 1 to <4ha (2.47 to 9.88 acres)
- 3 High 4ha (9.88 acres) or more

Microtopography Cover Scale

- 0 Absent
- 1 Present very small amounts or if more common of marginal quality
- 2 Present in moderate amounts, but not of highest quality or in small amounts of highest quality
- 3 Present in moderate or greater amounts and of highest quality

Category 1

27.5 GRAND TOTAL(max 100 pts)

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 013	
Date: October 9, 2020	
Description: PSS wetland Category 1 Facing North	

Wetland 013	
Date: October 9, 2020	
Description: PSS wetland Category 1 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 013	
Date: October 9, 2020	
Description: PSS wetland Category 1 Facing South	

Wetland 013	
Date: October 9, 2020	
Description: PSS wetland Category 1 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 013	
Date: October 9, 2020	
Description: PSS wetland Category 1 Soil Pit	

Wetland 014

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: AEP Crooksville-Newark City/County: Perry County Sampling Date: 08-Oct-20
Applicant/Owner: AEP State: OH Sampling Point: w-jbl-20201008-03
Investigator(s): jbl, rcm Section, Township, Range: S 7 T 14N R 14W
Landform (hillslope, terrace, etc.): Valley bottom Local relief (concave, convex, none): concave Slope: 1.0% / 0.6 °
Subregion (LRR or MLRA): LRR N Lat.: 39.79117 Long.: -82.11966 Datum: NAD 83
Soil Map Unit Name: Ne - Newark silt loam, 0 to 3 percent slopes, frequently flooded NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point (w-jbl-20201008-03) in to PFO Wetland 014 in valley bottom abutting both banks of stream 013. Wetland extends to east along sides of stream channel.	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <u>17</u>		
Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>12</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Multiple primary and secondary hydrology indicators present. Primary sources of hydrology are inflow from intermittent Stream 012 and Stream 014, overbank flow from intermittent Stream 013, and concentration of precipitation and surface runoff in geomorphic position. Wetland abuts intermittent Stream 013 that flows east to Moxahala Creek that flows north to Muskingum River, a TNW.			

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <u>Salix nigra</u>	35	<input checked="" type="checkbox"/> 53.8%	OBL
2. <u>Platanus occidentalis</u>	25	<input checked="" type="checkbox"/> 38.5%	FACW
3. <u>Liriodendron tulipifera</u>	5	<input type="checkbox"/> 7.7%	FACU
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
8. _____	0	<input type="checkbox"/> 0.0%	
65 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15'</u>)			
1. <u>Fraxinus pennsylvanica</u>	25	<input checked="" type="checkbox"/> 55.6%	FACW
2. <u>Lindera benzoin</u>	20	<input checked="" type="checkbox"/> 44.4%	FAC
3. _____	0	<input type="checkbox"/> 0.0%	
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
8. _____	0	<input type="checkbox"/> 0.0%	
9. _____	0	<input type="checkbox"/> 0.0%	
10. _____	0	<input type="checkbox"/> 0.0%	
45 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	
2. _____	0	<input type="checkbox"/> 0.0%	
3. _____	0	<input type="checkbox"/> 0.0%	
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
0 = Total Cover			
Herb Stratum (Plot size: <u>5'</u>)			
1. <u>Impatiens capensis</u>	45	<input checked="" type="checkbox"/> 47.4%	FACW
2. <u>Persicaria pensylvanica</u>	25	<input checked="" type="checkbox"/> 26.3%	FACW
3. <u>Pilea pumila</u>	25	<input checked="" type="checkbox"/> 26.3%	FACW
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
8. _____	0	<input type="checkbox"/> 0.0%	
9. _____	0	<input type="checkbox"/> 0.0%	
10. _____	0	<input type="checkbox"/> 0.0%	
11. _____	0	<input type="checkbox"/> 0.0%	
12. _____	0	<input type="checkbox"/> 0.0%	
95 = Total Cover			
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	
2. _____	0	<input type="checkbox"/> 0.0%	
3. _____	0	<input type="checkbox"/> 0.0%	
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
0 = 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: 7 (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 <u>35</u>	x 1 = <u>35</u>
FACW species <u>145</u>	x 2 = <u>290</u>
FAC species <u>20</u>	x 3 = <u>60</u>
FACU species <u>5</u>	x 4 = <u>20</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>205</u> (A)	<u>405</u> (B)
Prevalence Index = B/A = <u>1.976</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicator present as dominance test > 50%. Dominant species are OBL, FACW and FAC.

Soil

Sampling Point: **w-jbl-20201008-03**

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

Depth (inches)	Matrix			Redox Features				Loc ²	Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹			
0-17	10YR	4/1	80	7.5YR	4/6	25	C	M	Silty Clay Loam	distinct redox concentrations in pore

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

Hydric soil indicators present as low chroma/high value depleted matrix with required redox concentrations.

Upland 013

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: AEP Crooksville-Newark City/County: Perry County Sampling Date: 08-Oct-20
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-20201008-03
 Investigator(s): jbl, rcm Section, Township, Range: S 7 T 14N R 14W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): convex Slope: 20.0% / 11.3 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.79176 Long.: -82.11983 Datum: NAD 83
 Soil Map Unit Name: DmF - Dekalb loam, 40 to 70 percent slopes, very stony NWI classification: N/A

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

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Upland 013 point out to Wetland 014 on hillside. Not a wetland point as no wetland criteria met.	

Hydrology

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

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <u>Liriodendron tulipifera</u>	50	<input checked="" type="checkbox"/> 58.8%	FACU
2. <u>Fraxinus americana</u>	35	<input checked="" type="checkbox"/> 41.2%	FACU
3. _____	0	<input type="checkbox"/> 0.0%	
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
8. _____	0	<input type="checkbox"/> 0.0%	
85 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15'</u>)			
1. <u>Rosa multiflora</u>	35	<input checked="" type="checkbox"/> 58.3%	FACU
2. <u>Fagus grandifolia</u>	25	<input checked="" type="checkbox"/> 41.7%	FACU
3. _____	0	<input type="checkbox"/> 0.0%	
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
8. _____	0	<input type="checkbox"/> 0.0%	
9. _____	0	<input type="checkbox"/> 0.0%	
10. _____	0	<input type="checkbox"/> 0.0%	
60 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	
2. _____	0	<input type="checkbox"/> 0.0%	
3. _____	0	<input type="checkbox"/> 0.0%	
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
0 = Total Cover			
Herb Stratum (Plot size: <u>5'</u>)			
1. <u>Elymus hystrix</u>	50	<input checked="" type="checkbox"/> 66.7%	UPL
2. <u>Ageratina altissima</u>	25	<input checked="" type="checkbox"/> 33.3%	FACU
3. _____	0	<input type="checkbox"/> 0.0%	
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
8. _____	0	<input type="checkbox"/> 0.0%	
9. _____	0	<input type="checkbox"/> 0.0%	
10. _____	0	<input type="checkbox"/> 0.0%	
11. _____	0	<input type="checkbox"/> 0.0%	
12. _____	0	<input type="checkbox"/> 0.0%	
75 = Total Cover			
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. <u>Toxicodendron radicans</u>	5	<input checked="" type="checkbox"/> 100.0%	FAC
2. _____	0	<input type="checkbox"/> 0.0%	
3. _____	0	<input type="checkbox"/> 0.0%	
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
5 = 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: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 14.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>5</u>	x 3 = <u>15</u>
FACU species <u>170</u>	x 4 = <u>680</u>
UPL species <u>50</u>	x 5 = <u>250</u>
Column Totals: <u>225</u> (A)	<u>945</u> (B)
Prevalence Index = B/A = <u>4.200</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☐ No ☒

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

No hydrophytic vegetation indicators present, dominance test <50%, prevalence index >3.0. Dominant species are FAC, FACU and UPL.

Soil

Sampling Point: **upl-jbl-20201008-03**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR	3/3	100				Loam	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☒

Remarks:

No hydric soil indicators present.

Wetland 014

Site: AEP Crooksville-Newark Tline

Rater(s): J. Lubbers; R. Massa

Date:

10/8/2020

Field Id:

w-jbl-20201008-03

2 2

Metric 1. Wetland Area (size).

max 6 pts

subtotal

Select one size class and assign score.

- ☐ >50 acres (>20.2ha) (6 pts)
- ☐ 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- ☐ 10 to <25 acres (4 to <10.1ha) (4 pts)
- ☐ 3 to <10 acres (1.2 to <4ha) (3 pts)
- ☒ 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- ☐ 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- ☐ <0.1 acres (0.04ha) (0 pts)

0.92 acres

8 10

Metric 2. Upland buffers and surrounding land use.

max 14 pts.

subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- ☒ MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- ☐ NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- ☐ VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- ☒ VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- ☐ LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- ☐ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- ☒ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12.0 22.0

Metric 3. Hydrology.

max 30 pts.

subtotal

3a. Sources of Water. Score all that apply.

- ☐ High pH groundwater (5)
- ☐ Other groundwater (3)
- ☒ Precipitation (1)
- ☒ Seasonal/Intermittent surface water (3)
- ☐ Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select one.

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- ☐ None or none apparent (12)
- ☐ Recovered (7)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- ☐ 100 year floodplain (1)
- ☒ Between stream/lake and other human use (1)
- ☐ Part of wetland/upland (e.g. forest), complex (1)
- ☒ Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- ☐ Semi- to permanently inundated/saturated (4)
- ☒ Regularly inundated/saturated (3)
- ☐ Seasonally inundated (2)
- ☒ Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed

- | | |
|---|---|
| <input checked="" type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input checked="" type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input checked="" type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other: cattle |

8 30

Metric 4. Habitat Alteration and Development.

max 20 pts.

subtotal

4a. Substrate disturbance. Score one or double check and average.

- ☐ None or none apparent (4)
- ☐ Recovered (3)
- ☒ Recovering (2)
- ☐ Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☒ Fair (3)
- ☐ Poor to fair (2)
- ☐ Poor (1)

4c. Habitat alteration. Score one or double check and average.

- ☐ None or none apparent (9)
- ☐ Recovered (6)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

Check all disturbances observed

- | | |
|---|---|
| <input type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input checked="" type="checkbox"/> clearcutting | <input checked="" type="checkbox"/> sedimentation |
| <input checked="" type="checkbox"/> selective cutting | <input checked="" type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input checked="" type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

30

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

Wetland 014

Site: AEP Crooksville-Newark Tline	Rater(s): J. Lubbers; R. Massa	Date: 10/8/2020
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Field Id:

w-jbl-20201008-03

30

subtotal this page

0

30

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- ☐ Bog (10)
☐ Fen (10)
☐ Old growth forest (10)
☐ Mature forested wetland (5)
☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
☐ Lake Erie coastal/tributary wetland-restricted hydrology (5)
☐ Lake Plain Sand Prairies (Oak Openings) (10)
☐ Relict Wet Prairies (10)
☐ Known occurrence state/federal threatened or endangered species (10)
☐ Significant migratory songbird/water fowl habitat or usage (10)
☐ Category 1 Wetland. See Question 5 Qualitative Rating (-10)

7

37

max 20pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.**6a. Wetland Vegetation Communities.**

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
☐ Emergent
☐ Shrub
☐ Forest
☐ Mudflats
☐ Open water
☐ Other

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
☐ Moderately high(4)
☐ Moderate (3)
☒ Moderately low (2)
☐ Low (1)
☐ None (0)

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

- ☐ Extensive >75% cover (-5)
☐ Moderate 25-75% cover (-3)
☐ Sparse 5-25% cover (-1)
☐ Nearly absent <5% cover (0)
☒ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussucks
☐ Coarse woody debris >15cm (6in)
☐ Standing dead >25cm (10in) dbh
☐ Amphibian breeding pools

Vegetation Community Cover Scale

- 0 Absent or comprises <0.1ha (0.2471 acres) contiguous area
1 Present and either comprises small part of wetland's 1 vegetation and is of moderate quality, or comprises a significant part but is of low quality
2 Present and either comprises significant part of wetland's 2 vegetation and is of moderate quality or comprises a small part and is of high quality
3 Present and comprises significant part, or more, of wetland's 3 vegetation and is of high quality

Narrative Description of Vegetation Quality

Low spp diversity and/or predominance of nonnative or low disturbance tolerant native species

Native spp are dominant component of the vegetation, mod although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp to

A predominance of native species, with nonnative spp high and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

- 0 Absent <0.1ha (0.247 acres)
1 Low 0.1 to <1ha (0.247 to 2.47 acres)
2 Moderate 1 to <4ha (2.47 to 9.88 acres)
3 High 4ha (9.88 acres) or more

Microtopography Cover Scale

- 0 Absent
1 Present very small amounts or if more common of marginal quality
2 Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3 Present in moderate or greater amounts and of highest quality

Modified Category 2

37

GRAND TOTAL(max 100 pts)

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 014	
Date: October 8, 2020	
Description: PSS wetland Category 2 Facing North	

Wetland 014	
Date: October 8, 2020	
Description: PSS wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 014	
Date: October 8, 2020	
Description: PSS wetland Category 2 Facing South	

Wetland 014	
Date: October 8, 2020	
Description: PSS wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 014	
Date: October 8, 2020	
Description: PSS wetland Category 2 Soil Pit	

Wetland 015

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: AEP Crooksville-Newark City/County: Perry County Sampling Date: 08-Oct-20
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-20201008-04
 Investigator(s): jbl, rcm Section, Township, Range: S 7 T 14N R 14W
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): concave Slope: 0.0% / 0.0 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.79921 Long.: -82.13088 Datum: NAD 83
 Soil Map Unit Name: Bethesda-Pits, surface mine complex, 25 to 70 percent slopes, unreclaimed NWI classification: PUBF

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☒ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point in to PEM Wetland 015, extends through several constructed drainage swales in mining property=disturbed soils, continues to east outside study area connecting to NWI-mapped PUBF wetland.	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>4</u>		
Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Multiple primary and secondary hydrology indicators present. Primary source of hydrology is concentration of precipitation and surface runoff in geomorphic position. Wetland drains to south to NWI-mapped wetland outside study area, that drains west to Buckeye Fork that flows north to Jonathan Creek that flows east to Muskingum River, a TNW.			

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

Wetland 015

Sampling Point: **w-ibl-20201008-04**

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>25</u> x 1 = <u>25</u> FACW species <u>30</u> x 2 = <u>60</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>55</u> (A) <u>85</u> (B) Prevalence Index = B/A = <u>1.545</u>
Sapling-Sapling/Shrub Stratum (Plot size: 10')				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
Shrub Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. 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 stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
Herb Stratum (Plot size: 5')				
1. <u>Scirpus cyperinus</u>	30	<input checked="" type="checkbox"/> 54.5% FACW	_____	
2. <u>Eleocharis palustris</u>	25	<input checked="" type="checkbox"/> 45.5% OBL	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				
Woody Vine Stratum (Plot size: 10')				
1. _____	0	<input type="checkbox"/> 0.0%	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
= Total Cover				

Remarks: (Include photo numbers here or on a separate sheet.)
 plot confined to swale, does not include adjacent hillside. Hydrophytic vegetation indicator present as rapid test. Dominant species are OBL and FACW.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: **w-jbl-20201008-04**

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-16	10YR	4/1	75	7.5YR	4/6	25	C	M	Sandy Clay Loam	distinct redox concentrations

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

Hydric soil indicators present as low chroma/high value depleted matrix with required redox concentrations.

Upland 014

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: AEP Crooksville-Newark City/County: Perry County Sampling Date: 08-Oct-20
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-20201008-04
 Investigator(s): jbl, rcm Section, Township, Range: S 7 T 14N R 14W
 Landform (hillslope, terrace, etc.): Mound Local relief (concave, convex, none): convex Slope: 15.0% / 8.5 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.79957 Long.: -82.13131 Datum: NAD 83
 Soil Map Unit Name: Bethesda-Pits, surface mine complex, 25 to 70 percent slopes, unreclaimed NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☒ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Upland 014 point out to Wetland 015 on mound adjacent to wetland boundary. Located in old strip mine land, unreclaimed soils = disturbed soils. Not a wetland point as no wetland criteria met.	

Hydrology

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

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15'</u>)			
1. <u>Liriodendron tulipifera</u>	25	<input checked="" type="checkbox"/> 100.0%	FACU
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
25 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Herb Stratum (Plot size: <u>5'</u>)			
1. <u>Festuca arundinacea</u>	30	<input checked="" type="checkbox"/> 30.0%	FACU
2. <u>Daucus carota</u>	30	<input checked="" type="checkbox"/> 30.0%	UPL
3. <u>Euthamia graminifolia</u>	15	<input type="checkbox"/> 15.0%	FAC
4. <u>Solidago altissima</u>	15	<input type="checkbox"/> 15.0%	FACU
5. <u>Symphotrichum ericoides</u>	10	<input type="checkbox"/> 10.0%	FACU
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
100 = Total Cover			
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
0 = 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 <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>15</u>	x 3 = <u>45</u>
FACU species <u>80</u>	x 4 = <u>320</u>
UPL species <u>30</u>	x 5 = <u>150</u>
Column Total s: <u>125</u> (A)	<u>515</u> (B)
Prevalence Index = B/A = <u>4.120</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0** ¹

☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation ¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☐ No ☒

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

No hydrophytic vegetation indicators present, dominance test <50%, prevalence index >3.0. Dominant species are FACU and UPL.

Soil

Sampling Point: **upl-jbl-20201008-04**

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

Depth (inches)	Matrix		Redox Features				Loc ²	Texture	Remarks
	Color (moist)		Color (moist)	%	Type ¹				
0-16	10YR	3/3	100					Sandy Clay Loam	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils ³:

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

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 ☒

Remarks:

No hydric soil indicators present.

Wetland 015

Site: AEP Crooksville-Newark Tline

Rater(s): J. Lubbers; R. Massa

Date:

10/8/2020

Field Id:

w-jbl-20201008-04

2 2

Metric 1. Wetland Area (size).

max 6 pts

subtotal

Select one size class and assign score.

- ☐ >50 acres (>20.2ha) (6 pts)
- ☐ 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- ☐ 10 to <25 acres (4 to <10.1ha) (4 pts)
- ☐ 3 to <10 acres (1.2 to <4ha) (3 pts)
- ☒ 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- ☐ 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- ☐ <0.1 acres (0.04ha) (0 pts)

0.31 acres

4 6

Metric 2. Upland buffers and surrounding land use.

max 14 pts.

subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- ☐ MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- ☒ NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- ☐ VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- ☐ VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- ☒ LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- ☐ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- ☒ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

9.5 15.5

Metric 3. Hydrology.

max 30 pts.

subtotal

3a. Sources of Water. Score all that apply.

- ☐ High pH groundwater (5)
- ☐ Other groundwater (3)
- ☒ Precipitation (1)
- ☒ Seasonal/Intermittent surface water (3)
- ☐ Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select one.

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- ☐ None or none apparent (12)
- ☐ Recovered (7)
- ☐ Recovering (3)
- ☒ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- ☐ 100 year floodplain (1)
- ☒ Between stream/lake and other human use (1)
- ☐ Part of wetland/upland (e.g. forest), complex (1)
- ☐ Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- ☐ Semi- to permanently inundated/saturated (4)
- ☒ Regularly inundated/saturated (3)
- ☒ Seasonally inundated (2)
- ☐ Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed

- ☒ ditch
- ☐ tile
- ☐ dike
- ☐ weir
- ☐ stormwater input
- ☐ point source (nonstormwater)
- ☒ filling/grading
- ☒ road bed/RR track
- ☐ dredging
- ☐ Other: cattle

6.5 22

Metric 4. Habitat Alteration and Development.

max 20 pts.

subtotal

4a. Substrate disturbance. Score one or double check and average.

- ☐ None or none apparent (4)
- ☐ Recovered (3)
- ☒ Recovering (2)
- ☒ Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☒ Fair (3)
- ☐ Poor to fair (2)
- ☐ Poor (1)

4c. Habitat alteration. Score one or double check and average.

- ☐ None or none apparent (9)
- ☐ Recovered (6)
- ☒ Recovering (3)
- ☒ Recent or no recovery (1)

Check all disturbances observed

- ☐ mowing
- ☐ grazing
- ☒ clearcutting
- ☒ selective cutting
- ☐ woody debris removal
- ☒ toxic pollutants
- ☒ shrub/sapling removal
- ☐ herbaceous/aquatic bed removal
- ☒ sedimentation
- ☒ dredging
- ☐ farming
- ☐ nutrient enrichment

22

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

Wetland 015

Site: AEP Crooksville-Newark Tline

Rater(s): J. Lubbers; R. Massa

Date:

10/8/2020

22

subtotal this page

0**22**

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- ☐ Bog (10)
☐ Fen (10)
☐ Old growth forest (10)
☐ Mature forested wetland (5)
☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
☐ Lake Erie coastal/tributary wetland-restricted hydrology (5)
☐ Lake Plain Sand Prairies (Oak Openings) (10)
☐ Relict Wet Prairies (10)
☐ Known occurrence state/federal threatened or endangered species (10)
☐ Significant migratory songbird/water fowl habitat or usage (10)
☐ Category 1 Wetland. See Question 5 Qualitative Rating (-10)

4**26**

max 20pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.**6a. Wetland Vegetation Communities.**

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
☐ Emergent
☐ Shrub
☐ Forest
☐ Mudflats
☐ Open water
☐ Other

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
☐ Moderately high(4)
☐ Moderate (3)
☐ Moderately low (2)
☐ Low (1)
☒ None (0)

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

- ☐ Extensive >75% cover (-5)
☐ Moderate 25-75% cover (-3)
☐ Sparse 5-25% cover (-1)
☐ Nearly absent <5% cover (0)
☒ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ 0 Vegetated hummocks/tussucks
☐ 1 Coarse woody debris >15cm (6in)
☐ 0 Standing dead >25cm (10in) dbh
☐ 1 Amphibian breeding pools

Field Id:**w-jbl-20201008-04****Vegetation Community Cover Scale**

- 0 Absent or comprises <0.1ha (0.2471 acres) contiguous area
1 Present and either comprises small part of wetland's 1 vegetation and is of moderate quality, or comprises a significant part but is of low quality
2 Present and either comprises significant part of wetland's 2 vegetation and is of moderate quality or comprises a small part and is of high quality
3 Present and comprises significant part, or more, of wetland's 3 vegetation and is of high quality

Narrative Description of Vegetation Quality

Low spp diversity and/or predominance of nonnative or low disturbance tolerant native species

Native spp are dominant component of the vegetation, mod although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp to

A predominance of native species, with nonnative spp high and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

- 0 Absent <0.1ha (0.247 acres)
1 Low 0.1 to <1ha (0.247 to 2.47 acres)
2 Moderate 1 to <4ha (2.47 to 9.88 acres)
3 High 4ha (9.88 acres) or more

Microtopography Cover Scale

- 0 Absent
1 Present very small amounts or if more common of marginal quality
2 Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3 Present in moderate or greater amounts and of highest quality

Category 1**26 GRAND TOTAL(max 100 pts)**

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 015	
Date: October 8, 2020	
Description: PEM wetland Category 1 Facing North	

Wetland 015	
Date: October 8, 2020	
Description: PEM wetland Category 1 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 015	
Date: October 8, 2020	
Description: PEM wetland Category 1 Facing South	

Wetland 015	
Date: October 8, 2020	
Description: PEM wetland Category 1 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 015	
Date: October 8, 2020	
Description: PEM wetland Category 1 Soil Pit	

Wetland 016

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: AEP Crooksville-Newark City/County: Perry County Sampling Date: 08-Oct-20
Applicant/Owner: AEP State: OH Sampling Point: w-jbl-20201008-05
Investigator(s): jbl, rcm Section, Township, Range: S 7 T 14N R 14W
Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): concave Slope: 5.0% / 2.9 °
Subregion (LRR or MLRA): LRR N Lat.: 39.79993 Long.: -82.13227 Datum: NAD 83
Soil Map Unit Name: GWD - Guernsey-Westmoreland silt loams, 15 to 25 percent slopes NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☒ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point (w-jbl-20201008-05) in to PEM Wetland 016, fed by hillside seep. Wetland fully delineated, in prior strip-mined land = disturbed soils. Potentially isolated.	

Hydrology

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

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

Sampling Point: **w-ibl-20201008-05**

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Herb Stratum (Plot size: <u>5'</u>)			
1. <u>Leersia oryzoides</u>	50	<input checked="" type="checkbox"/> 50.0%	OBL
2. <u>Scirpus atrovirens</u>	25	<input checked="" type="checkbox"/> 25.0%	OBL
3. <u>Eupatorium perfoliatum</u>	25	<input checked="" type="checkbox"/> 25.0%	FACW
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
= 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 <u>75</u>	x 1 = <u>75</u>
FACW species <u>25</u>	x 2 = <u>50</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>125</u> (B)
Prevalence Index = B/A = <u>1.250</u>	

Hydrophytic Vegetation Indicators:

☒ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicator present as rapid test. Dominant species are OBL and FACW.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: **w-jbl-20201008-05**

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-2	10YR	3/2	100						Silty Clay Loam	
2-18	10YR	4/1	80	10YR	4/6	20	C	PL	Silty Clay Loam	distinct redox concentrations

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

Hydric soil indicators present as low chroma/high value depleted matrix with required redox concentrations.

Upland 015

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: AEP Crooksville-Newark City/County: Perry County Sampling Date: 08-Oct-20
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-20201008-05
 Investigator(s): jbl, rcm Section, Township, Range: S 7 T 14N R 14W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): flat Slope: 15.0% / 8.5 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.79991 Long.: -82.13216 Datum: NAD 83
 Soil Map Unit Name: GWD - Guernsey-Westmoreland silt loams, 15 to 25 percent slopes NWI classification: N/A

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

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Upland 015 point out to Wetland 016 on hillside adjacent to wetland boundary. Not a wetland point as no wetland criteria met.	

Hydrology

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

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15'</u>)			
1. <u>Rosa multiflora</u>	20	<input checked="" type="checkbox"/> 57.1% FACU	_____
2. <u>Platanus occidentalis</u>	15	<input checked="" type="checkbox"/> 42.9% FACW	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
35 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Herb Stratum (Plot size: <u>5'</u>)			
1. <u>Solidago canadensis</u>	50	<input checked="" type="checkbox"/> 41.7% FACU	_____
2. <u>Festuca arundinacea</u>	30	<input checked="" type="checkbox"/> 25.0% FACU	_____
3. <u>Symphyotrichum pilosum</u>	20	<input type="checkbox"/> 16.7% FAC	_____
4. <u>Tridens flavus</u>	20	<input type="checkbox"/> 16.7% FACU	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
120 = Total Cover			
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
0 = 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: 4 (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 <u>0</u>	x 1 = <u>0</u>
FACW species <u>15</u>	x 2 = <u>30</u>
FAC species <u>20</u>	x 3 = <u>60</u>
FACU species <u>120</u>	x 4 = <u>480</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Total s: <u>155</u> (A)	<u>570</u> (B)
Prevalence Index = B/A = <u>3.677</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0** ¹

☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation ¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☐ No ☒

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

No hydrophytic vegetation indicators present, dominance test <50%, prevalence index >3.0. Dominant species are FACW and FACU.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR	3/2	100				Sandy Clay	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☒

Remarks:

No hydric soil indicators present.

Wetland 016

Site: AEP Crooksville-Newark Tline

Rater(s): J. Lubbers; R. Massa

Date:

10/8/2020

Field Id:

w-jbl-20201008-05

0 0

max 6 pts

subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- ☐ >50 acres (>20.2ha) (6 pts)
- ☐ 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- ☐ 10 to <25 acres (4 to <10.1ha) (4 pts)
- ☐ 3 to <10 acres (1.2 to <4ha) (3 pts)
- ☐ 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- ☐ 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- ☒ <0.1 acres (0.04ha) (0 pts)

0.04 acres

4 4

max 14 pts.

subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- ☐ MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- ☒ NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- ☐ VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- ☐ VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- ☒ LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- ☐ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- ☒ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

7.0 11.0

max 30 pts.

subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- ☐ High pH groundwater (5)
- ☐ Other groundwater (3)
- ☒ Precipitation (1)
- ☐ Seasonal/Intermittent surface water (3)
- ☐ Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select one.

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- ☐ None or none apparent (12)
- ☐ Recovered (7)
- ☒ Recovering (3)
- ☒ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- ☐ 100 year floodplain (1)
- ☒ Between stream/lake and other human use (1)
- ☐ Part of wetland/upland (e.g. forest), complex (1)
- ☐ Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- ☐ Semi- to permanently inundated/saturated (4)
- ☒ Regularly inundated/saturated (3)
- ☐ Seasonally inundated (2)
- ☒ Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed

- ☒ ditch
- ☐ tile
- ☐ dike
- ☐ weir
- ☐ stormwater input
- ☐ point source (nonstormwater)
- ☒ filling/grading
- ☒ road bed/RR track
- ☐ dredging
- ☐ Other: cattle

6.5 17.5

max 20 pts.

subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- ☐ None or none apparent (4)
- ☐ Recovered (3)
- ☒ Recovering (2)
- ☒ Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☒ Fair (3)
- ☐ Poor to fair (2)
- ☐ Poor (1)

4c. Habitat alteration. Score one or double check and average.

- ☐ None or none apparent (9)
- ☐ Recovered (6)
- ☒ Recovering (3)
- ☒ Recent or no recovery (1)

Check all disturbances observed

- ☐ mowing
- ☐ grazing
- ☒ clearcutting
- ☒ selective cutting
- ☐ woody debris removal
- ☒ toxic pollutants
- ☒ shrub/sapling removal
- ☐ herbaceous/aquatic bed removal
- ☒ sedimentation
- ☒ dredging
- ☐ farming
- ☐ nutrient enrichment

17.5

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

Wetland 016

Site: AEP Crooksville-Newark Tline

Rater(s): J. Lubbers; R. Massa

Date:

10/8/2020

17.5

subtotal this page

0 17.5

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- ☐ Bog (10)
☐ Fen (10)
☐ Old growth forest (10)
☐ Mature forested wetland (5)
☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
☐ Lake Erie coastal/tributary wetland-restricted hydrology (5)
☐ Lake Plain Sand Prairies (Oak Openings) (10)
☐ Relict Wet Prairies (10)
☐ Known occurrence state/federal threatened or endangered species (10)
☐ Significant migratory songbird/water fowl habitat or usage (10)
☐ Category 1 Wetland. See Question 5 Qualitative Rating (-10)

2 19.5

max 20pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.**6a. Wetland Vegetation Communities.**

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
☐ 1 Emergent
☐ Shrub
☐ Forest
☐ Mudflats
☐ Open water
☐ Other

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
☐ Moderately high(4)
☐ Moderate (3)
☐ Moderately low (2)
☐ Low (1)
☒ None (0)

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

- ☐ Extensive >75% cover (-5)
☐ Moderate 25-75% cover (-3)
☐ Sparse 5-25% cover (-1)
☐ Nearly absent <5% cover (0)
☒ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ 0 Vegetated hummocks/tussocks
☐ 0 Coarse woody debris >15cm (6in)
☐ 0 Standing dead >25cm (10in) dbh
☐ 0 Amphibian breeding pools

Field Id:

w-jbl-20201008-05**Vegetation Community Cover Scale**

- 0 Absent or comprises <0.1ha (0.2471 acres) contiguous area
1 Present and either comprises small part of wetland's 1 vegetation and is of moderate quality, or comprises a significant part but is of low quality
2 Present and either comprises significant part of wetland's 2 vegetation and is of moderate quality or comprises a small part and is of high quality
3 Present and comprises significant part, or more, of wetland's 3 vegetation and is of high quality

Narrative Description of Vegetation Quality

Low spp diversity and/or predominance of nonnative or low disturbance tolerant native species

Native spp are dominant component of the vegetation, mod although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp to

A predominance of native species, with nonnative spp high and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

- 0 Absent <0.1ha (0.247 acres)
1 Low 0.1 to <1ha (0.247 to 2.47 acres)
2 Moderate 1 to <4ha (2.47 to 9.88 acres)
3 High 4ha (9.88 acres) or more

Microtopography Cover Scale

- 0 Absent
1 Present very small amounts or if more common of marginal quality
2 Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3 Present in moderate or greater amounts and of highest quality

Category 1

19.5 GRAND TOTAL(max 100 pts)

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 016	
Date: October 8, 2020	
Description: PEM wetland Category 1 Facing North	

Wetland 016	
Date: October 8, 2020	
Description: PEM wetland Category 1 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 016	
Date: October 8, 2020	
Description: PEM wetland Category 1 Facing South	

Wetland 016	
Date: October 8, 2020	
Description: PEM wetland Category 1 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 016	
Date: October 8, 2020	
Description: PEM wetland Category 1 Soil Pit	

Wetland 017

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: AEP Crooksville-Newark City/County: Perry County Sampling Date: 07-Oct-20
Applicant/Owner: AEP State: OH Sampling Point: w-jbl-20201007-01
Investigator(s): jbl, rcm Section, Township, Range: S 12 T 16N R 15W
Landform (hillslope, terrace, etc.): Valley bottom Local relief (concave, convex, none): concave Slope: 0.0% / 0.0 °
Subregion (LRR or MLRA): LRR N Lat.: 39.80357 Long.: -82.13859 Datum: NAD 83
Soil Map Unit Name: Ne - Newark silt loam, 0 to 3 percent slopes, frequently flooded NWI classification: PEM1A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point (w-jbl-20201007-01) in of pem valley bottom Wetland 017. Wetland extends to northeast and southwest outside study area, intercepts channel of NHD mapped stream.	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <u>0</u>		
Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <u>14</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: One primary and several secondary hydrology indicators present. Primary sources of hydrology are intermittent stream inflow and concentration of precipitation and surface runoff. Wetland abuts intermittent NHD stream that flows east to Buckeye Fork that flows north to Jonathan Creek the flows east to Muskingum River, a TNW.			

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15'</u>)			
1. <u>Rosa multiflora</u>	10	<input checked="" type="checkbox"/> 100.0%	FACU
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
10 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____		<input type="checkbox"/> 0.0%	_____
2. _____		<input type="checkbox"/> 0.0%	_____
3. _____		<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Herb Stratum (Plot size: <u>5'</u>)			
1. <u>Typha angustifolia</u>	60	<input checked="" type="checkbox"/> 54.5%	OBL
2. <u>Symphotrichum novae-angliae</u>	30	<input checked="" type="checkbox"/> 27.3%	FACW
3. <u>Juncus effusus</u>	20	<input type="checkbox"/> 18.2%	FACW
4. _____		<input type="checkbox"/> 0.0%	_____
5. _____		<input type="checkbox"/> 0.0%	_____
6. _____		<input type="checkbox"/> 0.0%	_____
7. _____		<input type="checkbox"/> 0.0%	_____
8. _____		<input type="checkbox"/> 0.0%	_____
9. _____		<input type="checkbox"/> 0.0%	_____
10. _____		<input type="checkbox"/> 0.0%	_____
11. _____		<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
110 = Total Cover			
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
0 = 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 <u>60</u>	x 1 = <u>60</u>
FACW species <u>50</u>	x 2 = <u>100</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>10</u>	x 4 = <u>40</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>120</u> (A)	<u>200</u> (B)
Prevalence Index = B/A = <u>1.667</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicator present as dominance test > 50%. Dominant species are OBL, FACW and FACU.

[illegible]

Upland 016

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: AEP Crooksville-Newark City/County: Perry County Sampling Date: 07-Oct-20
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-20201007-01
 Investigator(s): jbl, rcm Section, Township, Range: S 12 T 16N R 15W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): none Slope: 0.0% / 0.0 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.80359 Long.: -82.13848 Datum: NAD 83
 Soil Map Unit Name: Ne - Newark silt loam, 0 to 3 percent slopes, frequently flooded NWI classification: N/A

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

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Upland 016 point out to Wetland 017, about 3 feet east of boundary. Not a wetland point, no wetland criteria met.	

Hydrology

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

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15'</u>)			
1. <u>Rosa multiflora</u>	15	<input checked="" type="checkbox"/> 100.0%	FACU
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
15 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____		<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Herb Stratum (Plot size: <u>5'</u>)			
1. <u>Solidago altissima</u>	90	<input checked="" type="checkbox"/> 90.0%	FACU
2. <u>Daucus carota</u>	10	<input type="checkbox"/> 10.0%	UPL
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
0 = 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 <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>105</u>	x 4 = <u>420</u>
UPL species <u>10</u>	x 5 = <u>50</u>
Column Totals: <u>115</u> (A)	<u>470</u> (B)
Prevalence Index = B/A = <u>4.087</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks: (Include photo numbers here or on a separate sheet.)
No hydrophytic vegetation indicators present, dominance test <50%, prevalence index >3.0. Dominant species are FACU.

Soil

Sampling Point: **upl-jbl-20201007-01**

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

Depth (inches)	Matrix		Redox Features				Loc ²	Texture	Remarks
	Color (moist)		Color (moist)	%	Type				
0-17	10YR	3/3	100					Clay Loam	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils ³:

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

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 ☒

Remarks:

No hydric soil indicators present.

Wetland 017

Site: AEP Crooksville-Newark Tline

Rater(s): J. Lubbers; L. Bilski

Date:

10/7/2020

Field Id:

w-jbl-20201007-01

2 2

max 6 pts

subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- ☐ >50 acres (>20.2ha) (6 pts)
- ☐ 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- ☐ 10 to <25 acres (4 to <10.1ha) (4 pts)
- ☐ 3 to <10 acres (1.2 to <4ha) (3 pts)
- ☒ 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- ☐ 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- ☐ <0.1 acres (0.04ha) (0 pts)

1.40 acres

7 9

max 14 pts.

subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- ☒ MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- ☐ NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- ☐ VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- ☐ VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- ☒ LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- ☐ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- ☒ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12.0 21.0

max 30 pts.

subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- ☐ High pH groundwater (5)
- ☐ Other groundwater (3)
- ☒ Precipitation (1)
- ☒ Seasonal/Intermittent surface water (3)
- ☐ Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select one.

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- ☐ None or none apparent (12)
- ☐ Recovered (7)
- ☒ Recovering (3)
- ☒ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- ☐ 100 year floodplain (1)
- ☒ Between stream/lake and other human use (1)
- ☐ Part of wetland/upland (e.g. forest), complex (1)
- ☒ Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- ☐ Semi- to permanently inundated/saturated (4)
- ☒ Regularly inundated/saturated (3)
- ☐ Seasonally inundated (2)
- ☐ Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed

- ☒ ditch
- ☒ tile
- ☐ dike
- ☐ weir
- ☐ stormwater input
- ☐ point source (nonstormwater)
- ☒ filling/grading
- ☒ road bed/RR track
- ☐ dredging
- ☐ Other:

5.5 26.5

max 20 pts.

subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- ☐ None or none apparent (4)
- ☐ Recovered (3)
- ☒ Recovering (2)
- ☒ Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☐ Fair (3)
- ☒ Poor to fair (2)
- ☐ Poor (1)

4c. Habitat alteration. Score one or double check and average.

- ☐ None or none apparent (9)
- ☐ Recovered (6)
- ☒ Recovering (3)
- ☒ Recent or no recovery (1)

Check all disturbances observed

- ☐ mowing
- ☐ grazing
- ☒ clearcutting
- ☐ selective cutting
- ☐ woody debris removal
- ☒ toxic pollutants
- ☒ shrub/sapling removal
- ☐ herbaceous/aquatic bed removal
- ☒ sedimentation
- ☐ dredging
- ☐ farming
- ☐ nutrient enrichment

26.5

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

Wetland 017

Site: AEP Crooksville-Newark Tline

Rater(s): J. Lubbers; L. Bilski

Date:

10/7/2020

26.5

subtotal this page

0 26.5

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- ☐ Bog (10)
☐ Fen (10)
☐ Old growth forest (10)
☐ Mature forested wetland (5)
☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
☐ Lake Erie coastal/tributary wetland-restricted hydrology (5)
☐ Lake Plain Sand Prairies (Oak Openings) (10)
☐ Relict Wet Prairies (10)
☐ Known occurrence state/federal threatened or endangered species (10)
☐ Significant migratory songbird/water fowl habitat or usage (10)
☐ Category 1 Wetland. See Question 5 Qualitative Rating (-10)

-1 25.5

max 20pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.**6a. Wetland Vegetation Communities.**

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
☒ 1 Emergent
☐ Shrub
☐ Forest
☐ Mudflats
☐ Open water
☐ Other

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
☐ Moderately high(4)
☐ Moderate (3)
☐ Moderately low (2)
☐ Low (1)
☒ None (0)

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

- ☐ Extensive >75% cover (-5)
☒ Moderate 25-75% cover (-3)
☐ Sparse 5-25% cover (-1)
☐ Nearly absent <5% cover (0)
☐ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ 0 Vegetated hummocks/tussucks
☐ 0 Coarse woody debris >15cm (6in)
☐ 0 Standing dead >25cm (10in) dbh
☐ 1 Amphibian breeding pools

Field Id:

w-jbl-20201007-01**Vegetation Community Cover Scale**

- 0 Absent or comprises <0.1ha (0.2471 acres) contiguous area
1 Present and either comprises small part of wetland's 1 vegetation and is of moderate quality, or comprises a significant part but is of low quality
2 Present and either comprises significant part of wetland's 2 vegetation and is of moderate quality or comprises a small part and is of high quality
3 Present and comprises significant part, or more, of wetland's 3 vegetation and is of high quality

Narrative Description of Vegetation Quality

Low spp diversity and/or predominance of nonnative or low disturbance tolerant native species

Native spp are dominant component of the vegetation, mod although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp to

A predominance of native species, with nonnative spp high and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

- 0 Absent <0.1ha (0.247 acres)
1 Low 0.1 to <1ha (0.247 to 2.47 acres)
2 Moderate 1 to <4ha (2.47 to 9.88 acres)
3 High 4ha (9.88 acres) or more

Microtopography Cover Scale

- 0 Absent
1 Present very small amounts or if more common of marginal quality
2 Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3 Present in moderate or greater amounts and of highest quality

Category 1

25.5 GRAND TOTAL(max 100 pts)

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 017	
Date: October 7, 2020	
Description: PEM wetland Category 1 Facing North	

Wetland 017	
Date: October 7, 2020	
Description: PEM wetland Category 1 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 017	
Date: October 7, 2020	
Description: PEM wetland Category 1 Facing South	

Wetland 017	
Date: October 7, 2020	
Description: PEM wetland Category 1 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 017	
Date: October 7, 2020	
Description: PEM wetland Category 1 Soil Pit	

Wetland 018

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: AEP Crooksville-Newark City/County: Perry County Sampling Date: 07-Oct-20
Applicant/Owner: AEP State: OH Sampling Point: w-jbl-20201007-02
Investigator(s): jbl, rcm Section, Township, Range: S 1 T 16N R 15W
Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): concave Slope: 0.0% / 0.0 °
Subregion (LRR or MLRA): LRR N Lat.: 39.81270 Long.: -82.14757 Datum: NAD 83
Soil Map Unit Name: WmD - Westmoreland silt loam, 15 to 25 percent slopes NWI classification: N/A

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

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point (w-jbl-20201007-02) in to pem Wetland 018. Old culvert appears to have been blocked. Runoff from Wetland flows over berm into stream 021 downstream. Wetland fully delineated.	

Hydrology

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>10</u>		
Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>6</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Multiple primary and secondary hydrology indicators present. Primary sources of hydrology are intermittent stream inflow and concentration of precipitation and surface runoff. Wetland abuts intermittent stream 021 that flows east to mapped NHD stream that flows east to Buckeye Fork that flows north to Jonathan Creek the flows east to Muskingum River, a TNW.			

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

Sampling Point: **w-ib1-20201007-02**

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15'</u>)			
1. <u>Lindera benzoin</u>	10	<input checked="" type="checkbox"/> 66.7%	FAC
2. <u>Gleditsia triacanthos</u>	5	<input checked="" type="checkbox"/> 33.3%	FAC
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
15 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Herb Stratum (Plot size: <u>5'</u>)			
1. <u>Impatiens capensis</u>	35	<input checked="" type="checkbox"/> 35.0%	FACW
2. <u>Carex lurida</u>	30	<input checked="" type="checkbox"/> 30.0%	OBL
3. <u>Eupatorium perfoliatum</u>	25	<input checked="" type="checkbox"/> 25.0%	FACW
4. <u>Carex vulpinoidea</u>	10	<input type="checkbox"/> 10.0%	OBL
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
100 = Total Cover			
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
0 = 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 <u>40</u>	x 1 = <u>40</u>
FACW species <u>60</u>	x 2 = <u>120</u>
FAC species <u>15</u>	x 3 = <u>45</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>115</u> (A)	<u>205</u> (B)
Prevalence Index = B/A = <u>1.783</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicator present as dominance test > 50%. Dominant species are OBL, FACW and FAC.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: **w-jbl-20201007-02**

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-4	10YR	4/2	95	10YR	4/6	5	C	PL	Silty Clay Loam	
4-16	10YR	4/1	85	10YR	4/6	15	C	M	Silty Clay Loam	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

Hydric soil indicator present as low chroma/high value depleted matrix with required redox concentrations.

Upland 017

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: AEP Crooksville-Newark City/County: Perry County Sampling Date: 07-Oct-20
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-20201007-02
 Investigator(s): jbl, rcm Section, Township, Range: S 1 T 16N R 15W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): flat Slope: 15.0% / 8.5 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.81279 Long.: -82.14765 Datum: NAD 83
 Soil Map Unit Name: WmD - Westmoreland silt loam, 15 to 25 percent slopes NWI classification: N/A

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

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Upland 017 point out to Wetland 018, about 10 feet north of boundary. Not a wetland point, no wetland criteria met.	

Hydrology

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

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Herb Stratum (Plot size: <u>5'</u>)			
1. <u>Festuca arundinacea</u>	35	<input checked="" type="checkbox"/> 35.0%	FACU
2. <u>Solidago canadensis</u>	35	<input checked="" type="checkbox"/> 35.0%	FACU
3. <u>Schizachyrium scoparium</u>	20	<input checked="" type="checkbox"/> 20.0%	FACU
4. <u>Symphotrichum ericoides</u>	10	<input type="checkbox"/> 10.0%	FACU
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
= 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 <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>100</u>	x 4 = <u>400</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>400</u> (B)
Prevalence Index = B/A = <u>4.000</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0** ¹

☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation ¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☐ No ☒

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

No hydrophytic vegetation indicators present, dominance test <50%, prevalence index >3.0. Dominant species are FACU.

[illegible]

Wetland 018

Site: AEP Crooksville-Newark Tline

Rater(s): J. Lubbers; R. Massa

Date:

10/7/2020

1 1

max 6 pts

subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- ☐ >50 acres (>20.2ha) (6 pts)
- ☐ 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- ☐ 10 to <25 acres (4 to <10.1ha) (4 pts)
- ☐ 3 to <10 acres (1.2 to <4ha) (3 pts)
- ☐ 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- ☒ 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- ☐ <0.1 acres (0.04ha) (0 pts)

Field Id:

w-jbl-20201007-02

0.10 acres

5 6

max 14 pts.

subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☐ WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- ☐ MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- ☒ NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- ☐ VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- ☐ VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- ☒ LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- ☒ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- ☐ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

8.5 14.5

max 30 pts.

subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- ☐ High pH groundwater (5)
- ☐ Other groundwater (3)
- ☒ Precipitation (1)
- ☐ Seasonal/Intermittent surface water (3)
- ☐ Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select one.

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- ☐ None or none apparent (12)
- ☐ Recovered (7)
- ☒ Recovering (3)
- ☒ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- ☐ 100 year floodplain (1)
- ☒ Between stream/lake and other human use (1)
- ☐ Part of wetland/upland (e.g. forest), complex (1)
- ☒ Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- ☐ Semi- to permanently inundated/saturated (4)
- ☒ Regularly inundated/saturated (3)
- ☒ Seasonally inundated (2)
- ☐ Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed

- | | |
|---|---|
| <input checked="" type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input checked="" type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input checked="" type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other: |

8 22.5

max 20 pts.

subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- ☐ None or none apparent (4)
- ☐ Recovered (3)
- ☒ Recovering (2)
- ☐ Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☒ Fair (3)
- ☐ Poor to fair (2)
- ☐ Poor (1)

4c. Habitat alteration. Score one or double check and average.

- ☐ None or none apparent (9)
- ☐ Recovered (6)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

Check all disturbances observed

- | | |
|---|---|
| <input type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input checked="" type="checkbox"/> clearcutting | <input checked="" type="checkbox"/> sedimentation |
| <input checked="" type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input checked="" type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

22.5

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

Wetland 018

Site: AEP Crooksville-Newark Tline

Rater(s): J. Lubbers; R. Massa

Date:

10/7/2020

22.5

subtotal this page

0 22.5

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- ☐ Bog (10)
☐ Fen (10)
☐ Old growth forest (10)
☐ Mature forested wetland (5)
☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
☐ Lake Erie coastal/tributary wetland-restricted hydrology (5)
☐ Lake Plain Sand Prairies (Oak Openings) (10)
☐ Relict Wet Prairies (10)
☐ Known occurrence state/federal threatened or endangered species (10)
☐ Significant migratory songbird/water fowl habitat or usage (10)
☐ Category 1 Wetland. See Question 5 Qualitative Rating (-10)

4 26.5

max 20pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.**6a. Wetland Vegetation Communities.**

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
☒ 2 Emergent
☐ Shrub
☐ Forest
☐ Mudflats
☐ Open water
☐ Other

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
☐ Moderately high(4)
☐ Moderate (3)
☐ Moderately low (2)
☐ Low (1)
☒ None (0)

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

- ☐ Extensive >75% cover (-5)
☐ Moderate 25-75% cover (-3)
☐ Sparse 5-25% cover (-1)
☐ Nearly absent <5% cover (0)
☒ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ 0 Vegetated hummocks/tussocks
☐ 0 Coarse woody debris >15cm (6in)
☐ 0 Standing dead >25cm (10in) dbh
☐ 1 Amphibian breeding pools

Field Id:

w-jbl-20201007-02**Vegetation Community Cover Scale**

- 0 Absent or comprises <0.1ha (0.2471 acres) contiguous area
1 Present and either comprises small part of wetland's 1 vegetation and is of moderate quality, or comprises a significant part but is of low quality
2 Present and either comprises significant part of wetland's 2 vegetation and is of moderate quality or comprises a small part and is of high quality
3 Present and comprises significant part, or more, of wetland's 3 vegetation and is of high quality

Narrative Description of Vegetation Quality

Low spp diversity and/or predominance of nonnative or low disturbance tolerant native species

Native spp are dominant component of the vegetation, mod although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp to

A predominance of native species, with nonnative spp high and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

- 0 Absent <0.1ha (0.247 acres)
1 Low 0.1 to <1ha (0.247 to 2.47 acres)
2 Moderate 1 to <4ha (2.47 to 9.88 acres)
3 High 4ha (9.88 acres) or more

Microtopography Cover Scale

- 0 Absent
1 Present very small amounts or if more common of marginal quality
2 Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3 Present in moderate or greater amounts and of highest quality

Category 1

26.5 GRAND TOTAL(max 100 pts)

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 018	
Date: October 7, 2020	
Description: PEM wetland Category 1 Facing North	

Wetland 018	
Date: October 7, 2020	
Description: PEM wetland Category 1 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 018	
Date: October 7, 2020	
Description: PEM wetland Category 1 Facing South	

Wetland 018	
Date: October 7, 2020	
Description: PEM wetland Category 1 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 018	
Date: October 7, 2020	
Description: PEM wetland Category 1 Soil Pit	

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 02-Jun-20
Applicant/Owner: AEP State: OH Sampling Point: w-bl-20200602-01
Investigator(s): BL, SKM Section, Township, Range: S 2 T 16N R 15W
Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave Slope: 3.0 % / 71.6 °
Subregion (LRR or MLRA): LRR N Lat.: 39.81858 Long.: -82.15399 Datum: NAD83
Soil Map Unit Name: AfC - Alford silt loam, 8 to 15 percent slopes NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point in for PEM wetland 019. Wetland is wet meadow swale at outflow of pond 08 (p-bl-20200602-01), flows to subsurface drain to east under roadway outside of study area, no feature readily visible across road; potentially isolated.	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>			
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0</u>		
Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Multiple primary and secondary hydrology indicators present. Primary source of hydrology is outflow from agricultural pond p-bl-20200602-01, drains to east to outside study area to subsurface drain (field tile or buried culvert) under roadway to floodplain of nearby large stream; potentially isolated.			

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

Sampling Point: **w-bl-20200602-01**

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Herb Stratum (Plot size: <u>5' r</u>)			
1. <u>Agrostis gigantea</u>	20	<input checked="" type="checkbox"/> 20.4%	FACW
2. <u>Scirpus atrovirens</u>	20	<input checked="" type="checkbox"/> 20.4%	OBL
3. <u>Carex vulpinoidea</u>	15	<input checked="" type="checkbox"/> 15.3%	OBL
4. <u>Schedonorus arundinaceus</u>	10	<input type="checkbox"/> 10.2%	FACU
5. <u>Poa compressa</u>	10	<input type="checkbox"/> 10.2%	FACU
6. <u>Leersia virginica</u>	10	<input type="checkbox"/> 10.2%	FACW
7. <u>Juncus effusus</u>	5	<input type="checkbox"/> 5.1%	FACW
8. <u>Cirsium arvense</u>	5	<input type="checkbox"/> 5.1%	FACU
9. <u>Phalaris arundinacea</u>	3	<input type="checkbox"/> 3.1%	FACW
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
98 = Total Cover			
Woody Vine Stratum (Plot size: <u>15' r</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
0 = 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 <u>35</u>	x 1 = <u>35</u>
FACW species <u>38</u>	x 2 = <u>76</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>25</u>	x 4 = <u>100</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Total s: <u>98</u> (A)	<u>211</u> (B)
Prevalence Index = B/A = <u>2.153</u>	

Hydrophytic Vegetation Indicators:

☒ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0** ¹

☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation ¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicators present as rapid test, dominant species are OBL and FACW

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-6	10YR	4/2	90	10YR	4/4	10	C	PL	Sandy Clay Loam	distinct redox concentrations
6-15	10YR	4/1	90	10YR	4/6	10	C	PL	Sandy Clay Loam	distinct redox concentrations

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

Hydric soil indicator present as depleted matrix in sandy soils starting less than or equal to 6" depth with distinct redox concentrations as pore linings.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 02-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: upl-bl-20200602-01
 Investigator(s): BL, SKM Section, Township, Range: S 2 T 16N R 15W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): convex Slope: 10.0 % / 84.3 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.81858 Long.: -82.15399 Datum: NAD83
 Soil Map Unit Name: AfC - Alford silt loam, 8 to 15 percent slopes NWI classification: N/A

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

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Point out to Wetland 019 (Upland 018), about 3 feet south of wetland boundary at higher elevation in undisturbed old pasture. Not a wetland point as no wetland criteria met.	

Hydrology

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

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Herb Stratum (Plot size: <u>5' r</u>)			
1. <u>Schedonorus arundinaceus</u>	30	<input checked="" type="checkbox"/> 30.9%	FACU
2. <u>Poa compressa</u>	20	<input checked="" type="checkbox"/> 20.6%	FACU
3. <u>Festuca rubra</u>	20	<input checked="" type="checkbox"/> 20.6%	FACU
4. <u>Cirsium arvense</u>	10	<input type="checkbox"/> 10.3%	FACU
5. <u>Juncus tenuis</u>	10	<input type="checkbox"/> 10.3%	FAC
6. <u>Agrostis gigantea</u>	5	<input type="checkbox"/> 5.2%	FACW
7. <u>Rumex crispus</u>	2	<input type="checkbox"/> 2.1%	FAC
8. _____	_____	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Woody Vine Stratum (Plot size: <u>15' r</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
= 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 <u>0</u>	x 1 = <u>0</u>
FACW species <u>5</u>	x 2 = <u>10</u>
FAC species <u>12</u>	x 3 = <u>36</u>
FACU species <u>80</u>	x 4 = <u>320</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Total s: <u>97</u> (A)	<u>366</u> (B)
Prevalence Index = B/A = <u>3.773</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks: (Include photo numbers here or on a separate sheet.)
No hydrophytic vegetation indicators present, dominant species are FACU.

Soil

Sampling Point: **upl-bl-20200602-01**

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-7	10YR	4/3	90	10YR	4/6	10	C	M	Sandy Clay Loam	
7-15	10YR	4/2	60	10YR	4/6	40	C	M	Sandy Clay	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils³:

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

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 ☒

Remarks:

No hydric soil indicators present, low chroma and low value layer starts below 6" depth and does not contain redox concentrations as soft masses or pore linings.

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Date: June 2, 2020
Wetland: w-bl-20200602-01	Rater: BL, SM

0	0
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input checked="" type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

3	3
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)2a. Calculate average buffer width (select one, do not double check)

<input type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input checked="" type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input checked="" type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input checked="" type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

21	18
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input checked="" type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input checked="" type="checkbox"/>	Between stream/lake and other human use (1)
<input type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input checked="" type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

<input type="checkbox"/>	(select one or double check & average)
<input type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input checked="" type="checkbox"/>	Regularly inundated/saturated (3)
<input type="checkbox"/>	Seasonally inundated (2)
<input type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.(select one or double check & average)

<input type="checkbox"/>	None or none apparent (12)
<input checked="" type="checkbox"/>	Recovered (7)
<input type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed

<input type="checkbox"/>	ditch	<input type="checkbox"/>	point source (nonstormwater)
<input checked="" type="checkbox"/>	dike	<input checked="" type="checkbox"/>	filling/grading
<input type="checkbox"/>	tile	<input type="checkbox"/>	road bed/RR track
<input type="checkbox"/>	weir	<input type="checkbox"/>	dredging
<input type="checkbox"/>	stormwater input	<input type="checkbox"/>	other - list

29	8
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)4a. Substrate disturbance. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (4)
<input checked="" type="checkbox"/>	Recovered (3)
<input type="checkbox"/>	Recovering (2)
<input type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (9)
<input type="checkbox"/>	Recovered (6)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input type="checkbox"/>	Good (5)
<input type="checkbox"/>	Moderately good (4)
<input type="checkbox"/>	Fair (3)
<input checked="" type="checkbox"/>	Poor to fair (2)
<input type="checkbox"/>	Poor (1)

Check all disturbances observed

<input checked="" type="checkbox"/>	mowing	<input type="checkbox"/>	shrub/sapling removal
<input checked="" type="checkbox"/>	grazing	<input type="checkbox"/>	herbaceous/aquatic bed removal
<input type="checkbox"/>	clearcutting	<input type="checkbox"/>	sedimentation
<input type="checkbox"/>	selective cutting	<input type="checkbox"/>	dredging
<input type="checkbox"/>	woody debris removal	<input type="checkbox"/>	farming
<input type="checkbox"/>	toxic pollutants	<input type="checkbox"/>	nutrient enrichment

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild	Date: June 2, 2020
Wetland: w-bl-20200602-01	Rater: BL, SM

29 subtotal first page

29	0
----	---

Subtotal Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

<input type="checkbox"/>	Bog (10 pts)
<input type="checkbox"/>	Fen (10 pts)
<input type="checkbox"/>	Old Growth Forest (10 pts)
<input type="checkbox"/>	Mature forested wetland (5 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
<input type="checkbox"/>	Lake Plain Sand Prairies (Oak Openings) (10 pts)
<input type="checkbox"/>	Relict Wet Prairies (10 pts)
<input type="checkbox"/>	Known occurrence state/federal threatened or endangered species (10)
<input type="checkbox"/>	Significant migratory songbird/waterfowl habitat or usage (10 pts)
<input type="checkbox"/>	Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

31	2
----	---

Subtotal Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

0	Aquatic bed
1	Emergent
0	Shrub
0	Forest
0	Mudflats
0	Open water
	Other (list)

6b. Horizontal (plan view) interspersions

Select only one

<input type="checkbox"/>	High (5)
<input type="checkbox"/>	Moderately high (4)
<input type="checkbox"/>	Moderate (3)
<input type="checkbox"/>	Moderately low (2)
<input type="checkbox"/>	Low (1)
<input checked="" type="checkbox"/>	None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

<input type="checkbox"/>	Extensive >75 % cover (-5)
<input type="checkbox"/>	Moderate 25-75% cover (-3)
<input type="checkbox"/>	Sparse 5-25% cover (-1)
<input checked="" type="checkbox"/>	Nearly Absent <5% cover (0)
<input type="checkbox"/>	Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

1	Vegetated hummocks/tussocks
0	Coarse woody debris >15 cm (6")
0	Standing dead > 25 cm (10") dbh
0	Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

31 GRAND TOTAL (max 100 pts)

Provisional Wetland Category:

Modified Category 2

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 019	
Date: June 2, 2020	
Description: PEM wetland Category 2 Facing North	

Wetland 019	
Date: June 2, 2020	
Description: PEM wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 019	
Date: June 2, 2020	
Description: PEM wetland Category 2 Facing South	

Wetland 019	
Date: June 2, 2020	
Description: PEM wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 019	
Date: June 2, 2020	
Description: PEM wetland Category 2 Soil Pit	

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 02-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: w-bl-20200602-02
 Investigator(s): BL, SKM Section, Township, Range: S 2 T 16N R 15W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope: 3.0 % / 71.6 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.81888 Long.: -82.1547 Datum: NAD83
 Soil Map Unit Name: AfC - Alford silt loam, 8 to 15 percent slopes NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point in for PEM wetland 020. Wetland is located on 2 sides of pond 08 (p-bl-20200602-01) and swale draining into pond, wetland extends to west outside study area. Pond drains to east to wetland w-bl-20200602-01 that drains to east to subsurface drainage (tile or buried culvert) that goes to east to floodplain of large creek.	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>			
<input checked="" type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>6</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0</u>		
Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Multiple primary and secondary hydrology indicators present. Primary source of hydrology is concentration of precipitation and surface runoff into drainage swale and overflow from agricultural pond p-bl-20200602-01, drains to pond that drains to east to wetland w-bl-20200602-01 that drains east to outside study area to subsurface drain (field tile or buried culvert) under roadway to floodplain of large creek.			

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

Sampling Point: **w-bl-20200602-02**

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
1. <u>Salix interior</u>	<u>5</u>	<input checked="" type="checkbox"/> 100.0%	FACW	Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>83.3%</u> (A/B)
2. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
3. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
4. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
5. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
6. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
7. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
8. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
<u>5</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>29</u> x <u>1</u> = <u>29</u> FACW species <u>64</u> x <u>2</u> = <u>128</u> FAC species <u>0</u> x <u>3</u> = <u>0</u> FACU species <u>5</u> x <u>4</u> = <u>20</u> UPL species <u>0</u> x <u>5</u> = <u>0</u> Column Totals: <u>98</u> (A) <u>177</u> (B) Prevalence Index = B/A = <u>1.806</u>
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)				
1. <u>Rosa multiflora</u>	<u>5</u>	<input checked="" type="checkbox"/> 71.4%	FACU	
2. <u>Salix nigra</u>	<u>1</u>	<input type="checkbox"/> 14.3%	OBL	
3. <u>Fraxinus pennsylvanica</u>	<u>1</u>	<input type="checkbox"/> 14.3%	FACW	
4. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
5. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
6. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
7. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
8. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
9. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
10. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
<u>7</u> = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Shrub Stratum (Plot size: _____)				
1. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
2. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
3. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
4. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
5. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
6. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
7. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
8. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
<u>0</u> = Total Cover				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. 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 stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
Herb Stratum (Plot size: <u>5' r</u>)				
1. <u>Phalaris arundinacea</u>	<u>30</u>	<input checked="" type="checkbox"/> 34.9%	FACW	
2. <u>Juncus effusus</u>	<u>10</u>	<input checked="" type="checkbox"/> 11.6%	FACW	
3. <u>Leersia virginica</u>	<u>10</u>	<input checked="" type="checkbox"/> 11.6%	FACW	
4. <u>Najas minor</u>	<u>10</u>	<input checked="" type="checkbox"/> 11.6%	OBL	
5. <u>Carex vulpinoidea</u>	<u>5</u>	<input type="checkbox"/> 5.8%	OBL	
6. <u>Onoclea sensibilis</u>	<u>5</u>	<input type="checkbox"/> 5.8%	FACW	
7. <u>Lemna minor</u>	<u>5</u>	<input type="checkbox"/> 5.8%	OBL	
8. <u>Wolffia globosa</u>	<u>5</u>	<input type="checkbox"/> 5.8%	OBL	
9. <u>Agrostis gigantea</u>	<u>3</u>	<input type="checkbox"/> 3.5%	FACW	
10. <u>Typha latifolia</u>	<u>3</u>	<input type="checkbox"/> 3.5%	OBL	
11. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
12. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
<u>86</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>15' r</u>)				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
1. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
2. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
3. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
4. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
5. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
6. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
7. _____	<u>0</u>	<input type="checkbox"/> 0.0%		
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet.)
 Hydrophytic vegetation indicators present as dominance test > 50%, dominant species are OBL, FACW and FACU.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix			Redox Features				Loc ²	Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹			
0-4	10YR	4/2	100						Sandy Loam	
4-16	10Y	4/1	90	10YR	4/4	10	C	PL	Silty Clay Loam	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

Hydric soil indicator present as gleyed matrix in loamy soils starting less than or equal to 12" depth, also having redox concentrations in pore linings with low chroma/low value matrix

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 02-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: upl-bl-20200602-02
 Investigator(s): BL, SKM Section, Township, Range: S 2 T 16N R 15W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): convex Slope: 10.0 % / 84.3 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.8189 Long.: -82.15466 Datum: NAD83
 Soil Map Unit Name: AfC - Alfard silt loam, 8 to 15 percent slopes NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Point out to wetland 020 (Upland 019), about 5 feet north of boundary at slightly higher elevation. Not a wetland point, no wetland criteria met.	

Hydrology

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

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

Sampling Point: **upl-bl-20200602-02**

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: 15' r)			
1. <i>Rosa multiflora</i>	2	<input checked="" type="checkbox"/> 100.0%	FACU
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Herb Stratum (Plot size: 5' r)			
1. <i>Schedonorus arundinaceus</i>	30	<input checked="" type="checkbox"/> 33.3%	FACU
2. <i>Agrostis gigantea</i>	20	<input checked="" type="checkbox"/> 22.2%	FACW
3. <i>Festuca rubra</i>	15	<input type="checkbox"/> 16.7%	FACU
4. <i>Cirsium arvense</i>	15	<input type="checkbox"/> 16.7%	FACU
5. <i>Elymus virginicus</i>	5	<input type="checkbox"/> 5.6%	FACW
6. <i>Rumex crispus</i>	5	<input type="checkbox"/> 5.6%	FAC
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Woody Vine Stratum (Plot size: 15' r)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
= 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: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>25</u>	x 2 = <u>50</u>
FAC species <u>5</u>	x 3 = <u>15</u>
FACU species <u>62</u>	x 4 = <u>248</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Total s: <u>92</u> (A)	<u>313</u> (B)
Prevalence Index = B/A = <u>3.402</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0** ¹

☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation ¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks: (Include photo numbers here or on a separate sheet.)
No hydrophytic vegetation indicators present, dominant species are FACW and FACU.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-7	10YR	4/3	100						Sandy Loam	
7-16	10YR	5/1	80	10YR	4/2	20	D	M	Sandy Loam	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☒

Remarks:

No hydric soil indicators present.

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Date: June 2, 2020
Wetland: w-bl-20200602-02	Rater: BL, SM

0	0
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input checked="" type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

2	2
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

<input type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input checked="" type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input checked="" type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input checked="" type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

24	22
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input checked="" type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input checked="" type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input checked="" type="checkbox"/>	Between stream/lake and other human use (1)
<input type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input checked="" type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input checked="" type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

<u>(select one or double check & average)</u>	
<input type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input checked="" type="checkbox"/>	Regularly inundated/saturated (3)
<input type="checkbox"/>	Seasonally inundated (2)
<input type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

<input type="checkbox"/>	None or none apparent (12)
<input checked="" type="checkbox"/>	Recovered (7)
<input type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> tile	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input checked="" type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other - list

33	9
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (4)
<input checked="" type="checkbox"/>	Recovered (3)
<input type="checkbox"/>	Recovering (2)
<input type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (9)
<input type="checkbox"/>	Recovered (6)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input type="checkbox"/>	Good (5)
<input type="checkbox"/>	Moderately good (4)
<input checked="" type="checkbox"/>	Fair (3)
<input type="checkbox"/>	Poor to fair (2)
<input type="checkbox"/>	Poor (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input checked="" type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild	Date: June 2, 2020
Wetland: w-bl-20200602-02	Rater: BL, SM

33 subtotal first page

33 0

Subtotal Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

<input type="checkbox"/>	Bog (10 pts)
<input type="checkbox"/>	Fen (10 pts)
<input type="checkbox"/>	Old Growth Forest (10 pts)
<input type="checkbox"/>	Mature forested wetland (5 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
<input type="checkbox"/>	Lake Plain Sand Prairies (Oak Openings) (10 pts)
<input type="checkbox"/>	Relict Wet Prairies (10 pts)
<input type="checkbox"/>	Known occurrence state/federal threatened or endangered species (10)
<input type="checkbox"/>	Significant migratory songbird/waterfowl habitat or usage (10 pts)
<input type="checkbox"/>	Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

35 2

Subtotal Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

<input type="checkbox"/>	0	Aquatic bed
<input type="checkbox"/>	1	Emergent
<input type="checkbox"/>	0	Shrub
<input type="checkbox"/>	0	Forest
<input type="checkbox"/>	0	Mudflats
<input type="checkbox"/>	0	Open water
<input type="checkbox"/>		Other (list)

6b. Horizontal (plan view) interspersions

Select only one

<input type="checkbox"/>	High (5)
<input type="checkbox"/>	Moderately high (4)
<input type="checkbox"/>	Moderate (3)
<input checked="" type="checkbox"/>	Moderately low (2)
<input type="checkbox"/>	Low (1)
<input type="checkbox"/>	None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

<input type="checkbox"/>	Extensive >75 % cover (-5)
<input checked="" type="checkbox"/>	Moderate 25-75% cover (-3)
<input type="checkbox"/>	Sparse 5-25% cover (-1)
<input type="checkbox"/>	Nearly Absent <5% cover (0)
<input type="checkbox"/>	Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

<input type="checkbox"/>	1	Vegetated hummocks/tussocks
<input type="checkbox"/>	0	Coarse woody debris >15 cm (6")
<input type="checkbox"/>	0	Standing dead > 25 cm (10") dbh
<input type="checkbox"/>	1	Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

35 GRAND TOTAL (max 100 pts)

Provisional Wetland Category:

modified 2

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 020	
Date: June 2, 2020	
Description: PEM wetland Category 2 Facing North	

Wetland 020	
Date: June 2, 2020	
Description: PEM wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 020	
Date: June 2, 2020	
Description: PEM wetland Category 2 Facing South	

Wetland 020	
Date: June 2, 2020	
Description: PEM wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 020	
Date: June 2, 2020	
Description: PEM wetland Category 2 Soil Pit	

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Muskingum Sampling Date: 02-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: w-bl-20200602-03
 Investigator(s): BL, SKM Section, Township, Range: S 35 T 17N R 15W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope: 5.0 % / 78.7 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.82059 Long.: -82.1567 Datum: NAD83
 Soil Map Unit Name: WuE2 - Westmoreland-Guernsey silt loams, 25 to 40 percent slopes, eroded NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point in for PSS wetland 021. Wetland is located on terrace of intermittent stream s-bl-20200602-01 both banks with groundwater seepage evident. Wetland fully delineated by topography.	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
Primary Indicators (minimum of one required; check all that apply)			
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>10</u>		
Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Multiple primary and secondary hydrology indicators present. Primary source of hydrology groundwater seepage as observed and overbank flow from intermittent stream s-bl-20200602-01.			

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

Wetland 021

Sampling Point: **w-bl-20200602-03**

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>75.0%</u> (A/B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>20</u> x 1 = <u>20</u> FACW species <u>28</u> x 2 = <u>56</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>16</u> x 4 = <u>64</u> UPL species <u>5</u> x 5 = <u>25</u> Column Totals: <u>79</u> (A) <u>195</u> (B) Prevalence Index = B/A = <u>2.468</u>
1. <u>Ulmus americana</u>	3	<input type="checkbox"/> 75.0% FACW	_____	
2. <u>Fraxinus americana</u>	1	<input type="checkbox"/> 25.0% FACU	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: <u>5' r</u>)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. 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 stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. <u>Carex lurida</u>	20	<input checked="" type="checkbox"/> 26.7% OBL	_____	
2. <u>Agrostis gigantea</u>	10	<input checked="" type="checkbox"/> 13.3% FACW	_____	
3. <u>Poa compressa</u>	15	<input checked="" type="checkbox"/> 20.0% FACU	_____	
4. <u>Lysimachia nummularia</u>	10	<input checked="" type="checkbox"/> 13.3% FACW	_____	
5. <u>Eupatorium perfoliatum</u>	5	<input type="checkbox"/> 6.7% FACW	_____	
6. <u>Valerianella umbilicata</u>	5	<input type="checkbox"/> 6.7% FAC	_____	
7. <u>Carex gracilescens</u>	5	<input type="checkbox"/> 6.7% UPL	_____	
8. <u>Symphyotrichum prenanthoides</u>	5	<input type="checkbox"/> 6.7% FAC	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: <u>15' r</u>)				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	

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

Hydrophytic vegetation indicators present as dominance test > 50%, dominant species are OBL, FACW and FACU.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: **w-bl-20200602-03**

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-4	10y	4/1	95	10YR	4/3	5	C	PL	Silt Loam	gleyed matrix
4-14	10Y	3/1	90	10YR	3/3	10	C	PL	Silty Clay Loam	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

Hydric soil indicator present as gleyed matrix in loamy soils starting less than or equal to 12" depth, also having redox concentrations in pore linings with low chroma/low value matrix

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Muskingum Sampling Date: 02-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: upl-bl-20200602-03
 Investigator(s): BL, SKM Section, Township, Range: S 35 T 17N R 15W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): convex Slope: 20.0 % / 87.1 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.82055 Long.: -82.15666 Datum: NAD83
 Soil Map Unit Name: WuE2 - Westmoreland-Guernsey silt loams, 25 to 40 percent slopes, eroded NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Point out to wetland 021 (Upland 020), about 5 east of boundary. Not a wetland point, hydrophytic vegetation and hydrology criteria not met.	

Hydrology

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

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)	5	<input checked="" type="checkbox"/> 100.0%	FACU
1. <u>Juglans nigra</u>	5	<input checked="" type="checkbox"/> 100.0%	FACU
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Shrub Stratum (Plot size: _____)	5		
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Herb Stratum (Plot size: <u>5' r</u>)	30	<input checked="" type="checkbox"/> 34.1%	FAC
1. <u>Valerianella umbilicata</u>	30	<input checked="" type="checkbox"/> 34.1%	FAC
2. <u>Schedonorus arundinaceus</u>	15	<input checked="" type="checkbox"/> 17.0%	FACU
3. <u>Solidago altissima</u>	10	<input type="checkbox"/> 11.4%	FACU
4. <u>Daucus carota</u>	10	<input type="checkbox"/> 11.4%	UPL
5. <u>Impatiens pallida</u>	10	<input type="checkbox"/> 11.4%	FACW
6. <u>Barbarea vulgaris</u>	5	<input type="checkbox"/> 5.7%	FACU
7. <u>Symphotrichum pilosum</u>	5	<input type="checkbox"/> 5.7%	FAC
8. <u>Erigeron philadelphicus</u>	3	<input type="checkbox"/> 3.4%	FACU
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Woody Vine Stratum (Plot size: <u>15' r</u>)	88		
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
= 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: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x <u>1</u> = <u>0</u>
FACW species <u>10</u>	x <u>2</u> = <u>20</u>
FAC species <u>35</u>	x <u>3</u> = <u>105</u>
FACU species <u>38</u>	x <u>4</u> = <u>152</u>
UPL species <u>10</u>	x <u>5</u> = <u>50</u>
Column Total s: <u>93</u> (A)	<u>327</u> (B)
Prevalence Index = B/A = <u>3.516</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0** ¹

☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation ¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks: (Include photo numbers here or on a separate sheet.)
No hydrophytic vegetation indicators present, dominant species are FAC and FACU.

Soil

Sampling Point: **upl-bl-20200602-03**

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-6	10YR	4/3	90	10YR	5/1	10	D	M	Sandy Loam	
6-15	10Y	4/1	80	10YR	4/3	20	C	M	Sandy Clay Loam	gleyed matrix

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

Hydric soil indicator present as gleyed matrix in sandy soils starting less than or equal to 6" depth. Possible relict indicator from nearby stream dredging and spreading of spoils.

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Date: June 2, 2020
Wetland: w-bl-20200602-03	Rater: BL, SM

0	0
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input checked="" type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

12	12
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)2a. Calculate average buffer width (select one, do not double check)

<input checked="" type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input checked="" type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

27	15
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input checked="" type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input type="checkbox"/>	Between stream/lake and other human use (1)
<input checked="" type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input checked="" type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input checked="" type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

<input type="checkbox"/>	(select one or double check & average)
<input type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input type="checkbox"/>	Regularly inundated/saturated (3)
<input type="checkbox"/>	Seasonally inundated (2)
<input checked="" type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.(select one or double check & average)

<input type="checkbox"/>	None or none apparent (12)
<input checked="" type="checkbox"/>	Recovered (7)
<input type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed

<input type="checkbox"/>	ditch	<input type="checkbox"/>	point source (nonstormwater)
<input type="checkbox"/>	dike	<input checked="" type="checkbox"/>	filling/grading
<input type="checkbox"/>	tile	<input type="checkbox"/>	road bed/RR track
<input type="checkbox"/>	weir	<input checked="" type="checkbox"/>	dredging
<input type="checkbox"/>	stormwater input	<input type="checkbox"/>	other - list

36	9
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)4a. Substrate disturbance. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (4)
<input checked="" type="checkbox"/>	Recovered (3)
<input type="checkbox"/>	Recovering (2)
<input type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (9)
<input type="checkbox"/>	Recovered (6)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input type="checkbox"/>	Good (5)
<input type="checkbox"/>	Moderately good (4)
<input checked="" type="checkbox"/>	Fair (3)
<input type="checkbox"/>	Poor to fair (2)
<input type="checkbox"/>	Poor (1)

Check all disturbances observed

<input checked="" type="checkbox"/>	mowing	<input type="checkbox"/>	shrub/sapling removal
<input type="checkbox"/>	grazing	<input type="checkbox"/>	herbaceous/aquatic bed removal
<input checked="" type="checkbox"/>	clearcutting	<input type="checkbox"/>	sedimentation
<input type="checkbox"/>	selective cutting	<input checked="" type="checkbox"/>	dredging
<input type="checkbox"/>	woody debris removal	<input checked="" type="checkbox"/>	farming
<input type="checkbox"/>	toxic pollutants	<input type="checkbox"/>	nutrient enrichment

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild	Date: June 2, 2020
Wetland: w-bl-20200602-03	Rater: BL, SM

36 subtotal first page

36 0

Subtotal Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

<input type="checkbox"/>	Bog (10 pts)
<input type="checkbox"/>	Fen (10 pts)
<input type="checkbox"/>	Old Growth Forest (10 pts)
<input type="checkbox"/>	Mature forested wetland (5 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
<input type="checkbox"/>	Lake Plain Sand Prairies (Oak Openings) (10 pts)
<input type="checkbox"/>	Relict Wet Prairies (10 pts)
<input type="checkbox"/>	Known occurrence state/federal threatened or endangered species (10)
<input type="checkbox"/>	Significant migratory songbird/waterfowl habitat or usage (10 pts)
<input type="checkbox"/>	Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

42 6

Subtotal Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

0	Aquatic bed
2	Emergent
0	Shrub
0	Forest
0	Mudflats
0	Open water
0	Other (list)

6b. Horizontal (plan view) interspersions

Select only one

<input type="checkbox"/>	High (5)
<input type="checkbox"/>	Moderately high (4)
<input type="checkbox"/>	Moderate (3)
x	Moderately low (2)
<input type="checkbox"/>	Low (1)
<input type="checkbox"/>	None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

<input type="checkbox"/>	Extensive >75 % cover (-5)
<input type="checkbox"/>	Moderate 25-75% cover (-3)
<input type="checkbox"/>	Sparse 5-25% cover (-1)
<input type="checkbox"/>	Nearly Absent <5% cover (0)
x	Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

1	Vegetated hummocks/tussocks
0	Coarse woody debris >15 cm (6")
0	Standing dead > 25 cm (10") dbh
0	Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

42 GRAND TOTAL (max 100 pts)

Provisional Wetland Category:

modified 2

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 021	
Date: June 2, 2020	
Description: PSS wetland Category 2 Facing North	

Wetland 021	
Date: June 2, 2020	
Description: PSS wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 021	
Date: June 2, 2020	
Description: PSS wetland Category 2 Facing South	

Wetland 021	
Date: June 2, 2020	
Description: PSS wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 021	
Date: June 2, 2020	
Description: PSS wetland Category 2 Soil Pit	

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Muskingum Sampling Date: 01-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: w-bl-20200601-05
 Investigator(s): BL, SKM Section, Township, Range: S 35 T 17N R 15W
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): concave Slope: 15.0 % / 86.2 °
 Subregion (LRR or MLRA): LRR N Lat.: 38.82142 Long.: -82.15778 Datum: NAD83
 Soil Map Unit Name: WuE2 - Westmoreland-Guernsey silt loams, 25 to 40 percent slopes, eroded NWI classification: _____

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point in for wetland 022 (w-bl-20200601-05), located within 2 swales on hillside. Wetland is fully delineated and drains to a upland drainage feature downslope to perennial stream s-bl-20200601-06.	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>			
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____		
Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>6</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Multiple primary hydrology indicators present. Primary source of hydrology is concentration of precipitation and surface runoff in geomorphic position and abutting farm pond. Drains to northeast via UDF offsite to perennial stream s-bl-2020001-06.			

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

Sampling Point: **w-bl-20200601-05**

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Herb Stratum (Plot size: <u>5' r</u>)			
1. <u>Onoclea sensibilis</u>	30	<input checked="" type="checkbox"/> 28.6%	FACW
2. <u>Carex frankii</u>	20	<input checked="" type="checkbox"/> 19.0%	OBL
3. <u>Poa compressa</u>	15	<input checked="" type="checkbox"/> 14.3%	FACU
4. <u>Phalaris arundinacea</u>	10	<input type="checkbox"/> 9.5%	FACW
5. <u>Impatiens pallida</u>	10	<input type="checkbox"/> 9.5%	FACW
6. <u>Carex spicata</u>	10	<input type="checkbox"/> 9.5%	FAC
7. <u>Schedonorus arundinaceus</u>	5	<input type="checkbox"/> 4.8%	FACU
8. <u>Valerianella umbilicata</u>	5	<input type="checkbox"/> 4.8%	FAC
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Woody Vine Stratum (Plot size: <u>15' r</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
= 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 <u>20</u>	x 1 = <u>20</u>
FACW species <u>50</u>	x 2 = <u>100</u>
FAC species <u>15</u>	x 3 = <u>45</u>
FACU species <u>20</u>	x 4 = <u>80</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>105</u> (A)	<u>245</u> (B)
Prevalence Index = B/A = <u>2.333</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicator present as dominance test > 50%, dominant species are OBL, FACW and FACU

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-3	10Y	4/1	100						Clay Loam	gleyed matrix
3-18	10Y	5/1	90	10YR	5/6	10	C	PL	Clay Loam	gleyed matrix

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

Hydric soil indicators present as gleyed matrix with redox concentrations in pore linings

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Date: June 1, 2020
Wetland: w-bl-20200601-05	Rater: BL, SM

1	1
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input checked="" type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

9	8
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

<input type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input checked="" type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input checked="" type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input checked="" type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

28.5	19.5
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input checked="" type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input type="checkbox"/>	Between stream/lake and other human use (1)
<input checked="" type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input checked="" type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

<input type="checkbox"/>	(select one or double check & average)
<input type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input type="checkbox"/>	Regularly inundated/saturated (3)
<input checked="" type="checkbox"/>	Seasonally inundated (2)
<input checked="" type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

<input checked="" type="checkbox"/>	None or none apparent (12)
<input type="checkbox"/>	Recovered (7)
<input type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> dike	<input type="checkbox"/> filling/grading
<input type="checkbox"/> tile	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other - list

38.5	10
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

<input checked="" type="checkbox"/>	None or none apparent (4)
<input type="checkbox"/>	Recovered (3)
<input type="checkbox"/>	Recovering (2)
<input type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (9)
<input type="checkbox"/>	Recovered (6)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input type="checkbox"/>	Good (5)
<input type="checkbox"/>	Moderately good (4)
<input checked="" type="checkbox"/>	Fair (3)
<input type="checkbox"/>	Poor to fair (2)
<input type="checkbox"/>	Poor (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

38.5	subtotal this page
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Site: Crooksville-North Newark 138 kV Transmission Line Rebuild	Date: June 1, 2020
Wetland: Wetland 022	Rater: BL, SM

38.5 subtotal first page

38.5 **0**

Subtotal Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- | | |
|--------------------------|--|
| <input type="checkbox"/> | Bog (10 pts) |
| <input type="checkbox"/> | Fen (10 pts) |
| <input type="checkbox"/> | Old Growth Forest (10 pts) |
| <input type="checkbox"/> | Mature forested wetland (5 pts) |
| <input type="checkbox"/> | Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts) |
| <input type="checkbox"/> | Lake Erie coastal/tributary wetland-restricted hydrology (5 pts) |
| <input type="checkbox"/> | Lake Plain Sand Prairies (Oak Openings) (10 pts) |
| <input type="checkbox"/> | Relict Wet Prairies (10 pts) |
| <input type="checkbox"/> | Known occurrence state/federal threatened or endangered species (10) |
| <input type="checkbox"/> | Significant migratory songbird/waterfowl habitat or usage (10 pts) |
| <input type="checkbox"/> | Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts) |

40.5 **2**

Subtotal Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- | | |
|-------------------------------------|--------------|
| <input type="checkbox"/> | Aquatic bed |
| <input checked="" type="checkbox"/> | Emergent |
| <input type="checkbox"/> | Shrub |
| <input type="checkbox"/> | Forest |
| <input type="checkbox"/> | Mudflats |
| <input type="checkbox"/> | Open water |
| <input type="checkbox"/> | Other (list) |

6b. Horizontal (plan view) interspersions

Select only one

- | | |
|-------------------------------------|---------------------|
| <input type="checkbox"/> | High (5) |
| <input type="checkbox"/> | Moderately high (4) |
| <input type="checkbox"/> | Moderate (3) |
| <input type="checkbox"/> | Moderately low (2) |
| <input type="checkbox"/> | Low (1) |
| <input checked="" type="checkbox"/> | None (0) |

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- | | |
|-------------------------------------|-----------------------------|
| <input type="checkbox"/> | Extensive >75 % cover (-5) |
| <input type="checkbox"/> | Moderate 25-75% cover (-3) |
| <input checked="" type="checkbox"/> | Sparse 5-25% cover (-1) |
| <input type="checkbox"/> | Nearly Absent <5% cover (0) |
| <input type="checkbox"/> | Absent (1) |

6d. Microtopography

Score all present using 0 to 3 scale

- | | |
|-------------------------------------|---------------------------------|
| <input checked="" type="checkbox"/> | Vegetated hummocks/tussocks |
| <input type="checkbox"/> | Coarse woody debris >15 cm (6") |
| <input type="checkbox"/> | Standing dead > 25 cm (10") dbh |
| <input type="checkbox"/> | Amphibian breeding pools |

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

40.5 **GRAND TOTAL (max 100 pts)**

Provisional Wetland Category:

modified 2


Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 022	
Date: June 1, 2020	
Description: PEM wetland Category 2 Facing North	

Wetland 022	
Date: June 1, 2020	
Description: PEM wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 022	
Date: June 1, 2020	
Description: PEM wetland Category 2 Facing South	

Wetland 022	
Date: June 1, 2020	
Description: PEM wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 022	
Date: June 1, 2020	
Description: PEM wetland Category 2 Soil Pit	

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Muskingum Sampling Date: 01-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: w-bl-20200601-04
 Investigator(s): BL, SKM Section, Township, Range: S 35 T 17N R 15W
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): concave Slope: 15.0 % / 86.2 °
 Subregion (LRR or MLRA): LRR N Lat.: 38.82378 Long.: -82.160403 Datum: NAD83
 Soil Map Unit Name: WuE2 - Westmoreland-Guernsey silt loams, 25 to 40 percent slopes, eroded NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point in for wetland 023 (w-bl-20200601-04). Wetland is within swale between hills and fully delineated. Groundwater seepage observed at time of survey. Wetland is potentially isolated, drains downslope to northeast offsite towards perennial stream s-bl-20200601-06, not directly connected and above stream terrace on hillside.	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>			
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>10</u>		
Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: multiple primary hydrology indicators present. Primary source of hydrology is concentration of precipitation and surface runoff in geomorphic position. Drains to northeast downslope off-site via overland flow to perennial stream, potentially isolated.			

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

Sampling Point: **w-bl-20200601-04**

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)			
1. <u>Rubus idaeus</u>	2	<input type="checkbox"/> 100.0%	FAC
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Herb Stratum (Plot size: <u>5' r</u>)			
1. <u>Phalaris arundinacea</u>	30	<input checked="" type="checkbox"/> 30.9%	FACW
2. <u>Scirpus atrovirens</u>	30	<input checked="" type="checkbox"/> 30.9%	OBL
3. <u>Carex frankii</u>	15	<input type="checkbox"/> 15.5%	OBL
4. <u>Poa palustris</u>	15	<input type="checkbox"/> 15.5%	FACW
5. <u>Impatiens pallida</u>	5	<input type="checkbox"/> 5.2%	FACW
6. <u>Valerianella umbilicata</u>	2	<input type="checkbox"/> 2.1%	FAC
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Woody Vine Stratum (Plot size: <u>15' r</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
= 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 <u>45</u>	x 1 = <u>45</u>
FACW species <u>50</u>	x 2 = <u>100</u>
FAC species <u>4</u>	x 3 = <u>12</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>99</u> (A)	<u>157</u> (B)
Prevalence Index = B/A = <u>1.586</u>	

Hydrophytic Vegetation Indicators:

☒ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0** ¹

☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation ¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicator present as dominance test > 50%, dominant species are OBL and FACW

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Muskingum Sampling Date: 01-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: upl-bl-20200601-05
 Investigator(s): BL, SKM Section, Township, Range: S 35 T 17N R 15W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): convex Slope: 10.0 % / 84.3 °
 Subregion (LRR or MLRA): LRR N Lat.: 38.82363 Long.: -82.16026 Datum: NAD83
 Soil Map Unit Name: WuE2 - Westmoreland-Guernsey silt loams, 25 to 40 percent slopes, eroded NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Point out to wetland 023 (w-bl-20200601-04), located about 25 feet east of boundary at equal elevation. Not a wetland point as hydric soil and hydrology criteria not met.	

Hydrology

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

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

Sampling Point: **upl-bl-20200601-05**

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: 15' r)			
1. <i>Rubus occidentalis</i>	15	<input checked="" type="checkbox"/> 55.6%	UPL
2. <i>Juglans nigra</i>	10	<input checked="" type="checkbox"/> 37.0%	FACU
3. <i>Fraxinus americana</i>	2	<input type="checkbox"/> 7.4%	FACU
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Herb Stratum (Plot size: 5' r)			
1. <i>Valerianella umbilicata</i>	40	<input checked="" type="checkbox"/> 39.2%	FAC
2. <i>Dichanthelium clandestinum</i>	30	<input checked="" type="checkbox"/> 29.4%	FAC
3. <i>Carex spicata</i>	10	<input type="checkbox"/> 9.8%	FAC
4. <i>Vernonia gigantea</i>	10	<input type="checkbox"/> 9.8%	FAC
5. <i>Lamium purpureum</i>	5	<input type="checkbox"/> 4.9%	UPL
6. <i>Solidago altissima</i>	5	<input type="checkbox"/> 4.9%	FACU
7. <i>Verbesina alternifolia</i>	2	<input type="checkbox"/> 2.0%	FAC
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Woody Vine Stratum (Plot size: 15' r)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
= 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 <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>92</u>	x 3 = <u>276</u>
FACU species <u>17</u>	x 4 = <u>68</u>
UPL species <u>20</u>	x 5 = <u>100</u>
Column Total s: <u>129</u> (A)	<u>444</u> (B)
Prevalence Index = B/A = <u>3.442</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks: (Include photo numbers here or on a separate sheet.)
No hydrophytic vegetation indicators present.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-10	10YR	3/3	100						Silt Loam	
10-14	10YR	4/4	80	10YR	4/2	20	D	M	Silt Loam	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

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 ☒

Remarks:

No hydric soil indicators present.

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Date: June 1, 2020
Wetland: w-bl-20200601-04	Rater: BL, SM

0	0
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input checked="" type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

12	12
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

<input checked="" type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input checked="" type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

31	19
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input checked="" type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input type="checkbox"/>	Between stream/lake and other human use (1)
<input checked="" type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input checked="" type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

<u>(select one or double check & average)</u>	
<input type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input type="checkbox"/>	Regularly inundated/saturated (3)
<input type="checkbox"/>	Seasonally inundated (2)
<input checked="" type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

<input checked="" type="checkbox"/>	None or none apparent (12)
<input type="checkbox"/>	Recovered (7)
<input type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> dike	<input type="checkbox"/> filling/grading
<input type="checkbox"/> tile	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other - list

40	9
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

<input checked="" type="checkbox"/>	None or none apparent (4)
<input type="checkbox"/>	Recovered (3)
<input type="checkbox"/>	Recovering (2)
<input type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (9)
<input type="checkbox"/>	Recovered (6)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input type="checkbox"/>	Good (5)
<input type="checkbox"/>	Moderately good (4)
<input type="checkbox"/>	Fair (3)
<input checked="" type="checkbox"/>	Poor to fair (2)
<input type="checkbox"/>	Poor (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild	Date: June 1, 2020
Wetland: Wetland 023	Rater: BL, SM

40 subtotal first page

40	0
Subtotal	Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- | | |
|--------------------------|--|
| <input type="checkbox"/> | Bog (10 pts) |
| <input type="checkbox"/> | Fen (10 pts) |
| <input type="checkbox"/> | Old Growth Forest (10 pts) |
| <input type="checkbox"/> | Mature forested wetland (5 pts) |
| <input type="checkbox"/> | Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts) |
| <input type="checkbox"/> | Lake Erie coastal/tributary wetland-restricted hydrology (5 pts) |
| <input type="checkbox"/> | Lake Plain Sand Prairies (Oak Openings) (10 pts) |
| <input type="checkbox"/> | Relict Wet Prairies (10 pts) |
| <input type="checkbox"/> | Known occurrence state/federal threatened or endangered species (10) |
| <input type="checkbox"/> | Significant migratory songbird/waterfowl habitat or usage (10 pts) |
| <input type="checkbox"/> | Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts) |

38	-2
Subtotal	Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- | | |
|--------------------------|--------------|
| <input type="checkbox"/> | Aquatic bed |
| <input type="checkbox"/> | 1 Emergent |
| <input type="checkbox"/> | Shrub |
| <input type="checkbox"/> | Forest |
| <input type="checkbox"/> | Mudflats |
| <input type="checkbox"/> | Open water |
| <input type="checkbox"/> | Other (list) |

6b. Horizontal (plan view) interspersions

Select only one

- | | |
|-------------------------------------|---------------------|
| <input type="checkbox"/> | High (5) |
| <input type="checkbox"/> | Moderately high (4) |
| <input type="checkbox"/> | Moderate (3) |
| <input type="checkbox"/> | Moderately low (2) |
| <input type="checkbox"/> | Low (1) |
| <input checked="" type="checkbox"/> | x None (0) |

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- | | |
|-------------------------------------|------------------------------|
| <input type="checkbox"/> | Extensive >75 % cover (-5) |
| <input checked="" type="checkbox"/> | x Moderate 25-75% cover (-3) |
| <input type="checkbox"/> | Sparse 5-25% cover (-1) |
| <input type="checkbox"/> | Nearly Absent <5% cover (0) |
| <input type="checkbox"/> | Absent (1) |

6d. Microtopography

Score all present using 0 to 3 scale

- | | |
|--------------------------|-----------------------------------|
| <input type="checkbox"/> | 0 Vegetated hummocks/tussocks |
| <input type="checkbox"/> | 0 Coarse woody debris >15 cm (6") |
| <input type="checkbox"/> | 0 Standing dead > 25 cm (10") dbh |
| <input type="checkbox"/> | 0 Amphibian breeding pools |

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

38 **GRAND TOTAL (max 100 pts)**

Provisional Wetland Category:

modified 2

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 023	
Date: June 1, 2020	
Description: PEM wetland Category 2 Facing North	

Wetland 023	
Date: June 1, 2020	
Description: PEM wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 023	
Date: June 1, 2020	
Description: PEM wetland Category 2 Facing South	

Wetland 023	
Date: June 1, 2020	
Description: PEM wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 023	
Date: June 1, 2020	
Description: PEM wetland Category 2 Soil Pit	

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Muskingum Sampling Date: 01-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: w-bl-20200601-03
 Investigator(s): BL, SKM Section, Township, Range: S 35 T 17N R 15W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope: 5.0 % / 78.7 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.82863 Long.: -82.16598 Datum: NAD83
 Soil Map Unit Name: CsD - Coshocton silt loam, 15 to 25 percent slopes NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point in for wetland 024ab (w-bl-20200601-03ab). Wetland located in drainage swale and along edge of Pond 09 (p-bl-20200601-01). Wetland fully delineated, drains directly to intermittent stream s-bl-20200601-05 to south.	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
Primary Indicators (minimum of one required; check all that apply)			
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____		
Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>12</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Multiple primary hydrology indicators present. Primary source of hydrology is concentration of precipitation and surface runoff in geomorphic position and abutting farm pond. Drains to south directly to intermittent stream.			

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

Sampling Point: **w-bl-20200601-03**

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: 15' r)	10	<input checked="" type="checkbox"/> 52.6%	UPL
1. <i>Rubus occidentalis</i>	10	<input checked="" type="checkbox"/> 52.6%	UPL
2. <i>Rosa multiflora</i>	5	<input checked="" type="checkbox"/> 26.3%	FACU
3. <i>Ulmus americana</i>	3	<input type="checkbox"/> 15.8%	FACW
4. <i>Fraxinus pennsylvanica</i>	1	<input type="checkbox"/> 5.3%	FACW
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Shrub Stratum (Plot size: _____)	19		
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Herb Stratum (Plot size: 5' r)	30	<input checked="" type="checkbox"/> 29.4%	OBL
1. <i>Scirpus atrovirens</i>	30	<input checked="" type="checkbox"/> 29.4%	OBL
2. <i>Valerianella umbilicata</i>	15	<input checked="" type="checkbox"/> 14.7%	FAC
3. <i>Dichanthelium clandestinum</i>	15	<input checked="" type="checkbox"/> 14.7%	FAC
4. <i>Scirpus cyperinus</i>	10	<input type="checkbox"/> 9.8%	FACW
5. <i>Elymus virginicus</i>	10	<input type="checkbox"/> 9.8%	FACW
6. <i>Poa compressa</i>	10	<input type="checkbox"/> 9.8%	FACU
7. <i>Euthamia graminifolia</i>	5	<input type="checkbox"/> 4.9%	FAC
8. <i>Juncus tenuis</i>	5	<input type="checkbox"/> 4.9%	FAC
9. <i>Onoclea sensibilis</i>	2	<input type="checkbox"/> 2.0%	FACW
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Woody Vine Stratum (Plot size: 15' r)	102		
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
= 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: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>30</u>	x 1 = <u>30</u>
FACW species <u>26</u>	x 2 = <u>52</u>
FAC species <u>40</u>	x 3 = <u>120</u>
FACU species <u>15</u>	x 4 = <u>60</u>
UPL species <u>10</u>	x 5 = <u>50</u>
Column Totals: <u>121</u> (A)	<u>312</u> (B)
Prevalence Index = B/A = <u>2.579</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is ≤ 3.0 ¹

☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation ¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicator present as dominance test > 50%, dominant species are OBL, FAC, FACU and UPL

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: **w-bl-20200601-03**

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-3	5Y	3/3	100						Silt Loam	
3-13	5Y	4/2	95	5Y	4/6	5	C	PL	Silt Loam	
13-17	5Y	4/1	98	5Y	4/4	2	C	PL	Silty Clay Loam	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

Hydric soil indicators present as depleted matrix with low chroma and low value having redox concentrations in pore linings.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Muskingum Sampling Date: 01-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: upl-bl-20200601-03
 Investigator(s): BL, SKM Section, Township, Range: S 35 T 17N R 15W
 Landform (hillslope, terrace, etc.): Shoulder slope Local relief (concave, convex, none): convex Slope: 20.0 % / 87.1 °
 Subregion (LRR or MLRA): LRR N Lat.: 38.82884 Long.: -82.166315 Datum: NAD83
 Soil Map Unit Name: CsD - Coshocton silt loam, 15 to 25 percent slopes NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Point out to wetland 024ab (w-bl-20200601-03), about 50 feet northwest of wetland boundary. Not a wetland point as hydric soil and hydrology criteria not met.	

Hydrology

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

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)			
1. <u>Fraxinus americana</u>	10	<input checked="" type="checkbox"/> 76.9%	FACU
2. <u>Juglans nigra</u>	2	<input type="checkbox"/> 15.4%	FACU
3. <u>Sassafras albidum</u>	1	<input type="checkbox"/> 7.7%	FACU
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Herb Stratum (Plot size: <u>5' r</u>)			
1. <u>Dichanthelium clandestinum</u>	40	<input checked="" type="checkbox"/> 39.2%	FAC
2. <u>Valerianella umbilicata</u>	30	<input checked="" type="checkbox"/> 29.4%	FAC
3. <u>Onoclea sensibilis</u>	10	<input type="checkbox"/> 9.8%	FACW
4. <u>Alliaria petiolata</u>	10	<input type="checkbox"/> 9.8%	FACU
5. <u>Festuca rubra</u>	5	<input type="checkbox"/> 4.9%	FACU
6. <u>Elymus virginicus</u>	5	<input type="checkbox"/> 4.9%	FACW
7. <u>Packera aurea</u>	2	<input type="checkbox"/> 2.0%	FACW
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Woody Vine Stratum (Plot size: <u>15' r</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
= 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 <u>0</u>	x 1 = <u>0</u>
FACW species <u>17</u>	x 2 = <u>34</u>
FAC species <u>70</u>	x 3 = <u>210</u>
FACU species <u>28</u>	x 4 = <u>112</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Total s: <u>115</u> (A)	<u>356</u> (B)
Prevalence Index = B/A = <u>3.096</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0** ¹

☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation ¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicator present as dominance test > 50%, dominant species are FAC and FACU

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

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

Depth (inches)	Matrix			Redox Features			Loc ²	Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹			
0-3	5Y	3/3	100					Silt Loam	
3-19	5Y	4/3	100					Silt Loam	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☒

Remarks:

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Date: June 1, 2020
Wetland: Wetland 024	Rater: BL, SM

0	0
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)

w-bl-20200601-03

Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input checked="" type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

12	12
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

<input checked="" type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input checked="" type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

31	19
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input checked="" type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input type="checkbox"/>	Between stream/lake and other human use (1)
<input checked="" type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input checked="" type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input checked="" type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

<u>(select one or double check & average)</u>	
<input checked="" type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input type="checkbox"/>	Regularly inundated/saturated (3)
<input type="checkbox"/>	Seasonally inundated (2)
<input type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

<input type="checkbox"/>	None or none apparent (12)
<input checked="" type="checkbox"/>	Recovered (7)
<input type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed

<input type="checkbox"/>	ditch	<input type="checkbox"/>	point source (nonstormwater)
<input checked="" type="checkbox"/>	dike	<input checked="" type="checkbox"/>	filling/grading
<input type="checkbox"/>	tile	<input type="checkbox"/>	road bed/RR track
<input type="checkbox"/>	weir	<input type="checkbox"/>	dredging
<input type="checkbox"/>	stormwater input	<input type="checkbox"/>	other - list

42	11
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (4)
<input checked="" type="checkbox"/>	Recovered (3)
<input type="checkbox"/>	Recovering (2)
<input type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (9)
<input type="checkbox"/>	Recovered (6)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input checked="" type="checkbox"/>	Good (5)
<input type="checkbox"/>	Moderately good (4)
<input type="checkbox"/>	Fair (3)
<input type="checkbox"/>	Poor to fair (2)
<input type="checkbox"/>	Poor (1)

Check all disturbances observed

<input checked="" type="checkbox"/>	mowing	<input type="checkbox"/>	shrub/sapling removal
<input type="checkbox"/>	grazing	<input type="checkbox"/>	herbaceous/aquatic bed removal
<input type="checkbox"/>	clearcutting	<input type="checkbox"/>	sedimentation
<input type="checkbox"/>	selective cutting	<input type="checkbox"/>	dredging
<input type="checkbox"/>	woody debris removal	<input type="checkbox"/>	farming
<input type="checkbox"/>	toxic pollutants	<input type="checkbox"/>	nutrient enrichment

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild	Date: June 1, 2020
Wetland: Wetland 024	Rater: BL, SM

42 subtotal first page

42	0
Subtotal	Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- | | |
|--------------------------|--|
| <input type="checkbox"/> | Bog (10 pts) |
| <input type="checkbox"/> | Fen (10 pts) |
| <input type="checkbox"/> | Old Growth Forest (10 pts) |
| <input type="checkbox"/> | Mature forested wetland (5 pts) |
| <input type="checkbox"/> | Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts) |
| <input type="checkbox"/> | Lake Erie coastal/tributary wetland-restricted hydrology (5 pts) |
| <input type="checkbox"/> | Lake Plain Sand Prairies (Oak Openings) (10 pts) |
| <input type="checkbox"/> | Relict Wet Prairies (10 pts) |
| <input type="checkbox"/> | Known occurrence state/federal threatened or endangered species (10) |
| <input type="checkbox"/> | Significant migratory songbird/waterfowl habitat or usage (10 pts) |
| <input type="checkbox"/> | Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts) |

47	5
Subtotal	Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- | | |
|--------------------------|--------------|
| <input type="checkbox"/> | Aquatic bed |
| 2 | Emergent |
| <input type="checkbox"/> | Shrub |
| <input type="checkbox"/> | Forest |
| <input type="checkbox"/> | Mudflats |
| <input type="checkbox"/> | Open water |
| <input type="checkbox"/> | Other (list) |

6b. Horizontal (plan view) interspersions

Select only one

- | | |
|--------------------------|---------------------|
| <input type="checkbox"/> | High (5) |
| <input type="checkbox"/> | Moderately high (4) |
| <input type="checkbox"/> | Moderate (3) |
| <input type="checkbox"/> | Moderately low (2) |
| <input type="checkbox"/> | Low (1) |
| x | None (0) |

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- | | |
|--------------------------|-----------------------------|
| <input type="checkbox"/> | Extensive >75 % cover (-5) |
| <input type="checkbox"/> | Moderate 25-75% cover (-3) |
| <input type="checkbox"/> | Sparse 5-25% cover (-1) |
| <input type="checkbox"/> | Nearly Absent <5% cover (0) |
| x | Absent (1) |

6d. Microtopography

Score all present using 0 to 3 scale

- | | |
|---|---------------------------------|
| 1 | Vegetated hummocks/tussocks |
| 0 | Coarse woody debris >15 cm (6") |
| 0 | Standing dead > 25 cm (10") dbh |
| 1 | Amphibian breeding pools |

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

47 **GRAND TOTAL (max 100 pts)**

Provisional Wetland Category:


Category 2

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 024a	
Date: June 1, 2020	
Description: PEM wetland Category 2 Facing North	

Wetland 024a	
Date: June 1, 2020	
Description: PEM wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 024a	
Date: June 1, 2020	
Description: PEM wetland Category 2 Facing South	

Wetland 024a	
Date: June 1, 2020	
Description: PEM wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 024a	
Date: June 1, 2020	
Description: PEM wetland Category 2 Soil Pit	

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Muskingum Sampling Date: 01-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: w-bl-20200601-02
 Investigator(s): BL, SKM Section, Township, Range: S 35 T 17N R 15W
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): concave Slope: 5.0 % / 78.7 °
 Subregion (LRR or MLRA): LRR N Lat.: 38.82963 Long.: -82.167702 Datum: NAD83
 Soil Map Unit Name: WuD2 - Westmoreland-Guernsey silt loams, 15 to 25 percent NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point in for wetland 025 (w-bl-20200601-02). Wetland within swale, drains southwest directly to s-bl-20200601-04. Wetland is fully delineated.	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <u>0</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>11</u>		
Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>7</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Two primary and one secondary hydrology indicators present. Primary source of hydrology is concentration of precipitation and surface runoff in geomorphic position. Drains to southwest directly to intermittent stream.			

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)			
1. <u>Ulmus americana</u>	2	<input checked="" type="checkbox"/> 100.0%	FACW
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Herb Stratum (Plot size: <u>5' r</u>)			
1. <u>Poa palustris</u>	40	<input checked="" type="checkbox"/> 44.0%	FACW
2. <u>Persicaria sagittata</u>	10	<input checked="" type="checkbox"/> 11.0%	OBL
3. <u>Euthamia graminifolia</u>	10	<input checked="" type="checkbox"/> 11.0%	FAC
4. <u>Galium asprellum</u>	10	<input checked="" type="checkbox"/> 11.0%	OBL
5. <u>Scirpus atrovirens</u>	5	<input type="checkbox"/> 5.5%	OBL
6. <u>Rubus allegheniensis</u>	5	<input type="checkbox"/> 5.5%	FACU
7. <u>Juncus effusus</u>	5	<input type="checkbox"/> 5.5%	FACW
8. <u>Rumex crispus</u>	3	<input type="checkbox"/> 3.3%	FAC
9. <u>Dichanthelium clandestinum</u>	3	<input type="checkbox"/> 3.3%	FAC
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Woody Vine Stratum (Plot size: <u>15' r</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
= 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 <u>25</u>	x 1 = <u>25</u>
FACW species <u>47</u>	x 2 = <u>94</u>
FAC species <u>16</u>	x 3 = <u>48</u>
FACU species <u>5</u>	x 4 = <u>20</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Total s: <u>93</u> (A)	<u>187</u> (B)
Prevalence Index = B/A = <u>2.011</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicator present as dominance test > 50%, dominant species are OBL, FACW and FAC

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Muskingum Sampling Date: 01-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: upl-bl-20200601-02
 Investigator(s): BL, SKM Section, Township, Range: S 35 T 17N R 15W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): convex Slope: 10.0 % / 84.3 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.829605 Long.: -82.1677 Datum: NAD83
 Soil Map Unit Name: WuD2 - Westmoreland-Guernsey silt loams, 15 to 25 percent NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Point out to wetland 025 (w-bl-20200601-02), about 5 feet east of boundary. Not a wetland point as hydric soil and hydrology criteria not met.	

Hydrology

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

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)			
1. <u>Elaeagnus umbellata</u>	15	<input checked="" type="checkbox"/> 55.6%	UPL
2. <u>Rubus occidentalis</u>	10	<input checked="" type="checkbox"/> 37.0%	UPL
3. <u>Ulmus americana</u>	2	<input type="checkbox"/> 7.4%	FACW
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
27 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Herb Stratum (Plot size: <u>5' r</u>)			
1. <u>Euthamia graminifolia</u>	30	<input checked="" type="checkbox"/> 32.6%	FAC
2. <u>Boehmeria cylindrica</u>	15	<input checked="" type="checkbox"/> 16.3%	FACW
3. <u>Galium asprellum</u>	15	<input checked="" type="checkbox"/> 16.3%	OBL
4. <u>Solidago altissima</u>	10	<input type="checkbox"/> 10.9%	FACU
5. <u>Verbesina alternifolia</u>	10	<input type="checkbox"/> 10.9%	FAC
6. <u>Agrimonia parviflora</u>	5	<input type="checkbox"/> 5.4%	FACW
7. <u>Packera aurea</u>	5	<input type="checkbox"/> 5.4%	FACW
8. <u>Asclepias syriaca</u>	2	<input type="checkbox"/> 2.2%	FACU
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
92 = Total Cover			
Woody Vine Stratum (Plot size: <u>15' r</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
0 = 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: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>15</u>	x 1 = <u>15</u>
FACW species <u>27</u>	x 2 = <u>54</u>
FAC species <u>40</u>	x 3 = <u>120</u>
FACU species <u>12</u>	x 4 = <u>48</u>
UPL species <u>25</u>	x 5 = <u>125</u>
Column Total s: <u>119</u> (A)	<u>362</u> (B)
Prevalence Index = B/A = <u>3.042</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicator present as dominance test > 50%, dominant species are OBL, FAC, FACW and UPL

Soil

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR	3/3	100				Silt Loam	
3-17	10YR	4/3	100				Silt Loam	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☒

Remarks:

No hydric soil indicators present.

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Date: June 1, 2020
Wetland: w-bl-20200601-02	Rater: BL, SM

0	0
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input checked="" type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

12	12
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)2a. Calculate average buffer width (select one, do not double check)

<input checked="" type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input checked="" type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

29	17
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input type="checkbox"/>	Between stream/lake and other human use (1)
<input checked="" type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input checked="" type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input checked="" type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

<input type="checkbox"/>	(select one or double check & average)
<input type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input type="checkbox"/>	Regularly inundated/saturated (3)
<input type="checkbox"/>	Seasonally inundated (2)
<input checked="" type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.

<input checked="" type="checkbox"/>	(select one or double check & average)
<input checked="" type="checkbox"/>	None or none apparent (12)
<input type="checkbox"/>	Recovered (7)
<input type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed

<input type="checkbox"/>	ditch	<input type="checkbox"/>	point source (nonstormwater)
<input type="checkbox"/>	dike	<input type="checkbox"/>	filling/grading
<input type="checkbox"/>	tile	<input type="checkbox"/>	road bed/RR track
<input type="checkbox"/>	weir	<input type="checkbox"/>	dredging
<input type="checkbox"/>	stormwater input	<input type="checkbox"/>	other - list

38	9
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)4a. Substrate disturbance. Score one or double check and average.

<input checked="" type="checkbox"/>	None or none apparent (4)
<input type="checkbox"/>	Recovered (3)
<input type="checkbox"/>	Recovering (2)
<input type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (9)
<input type="checkbox"/>	Recovered (6)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input type="checkbox"/>	Good (5)
<input type="checkbox"/>	Moderately good (4)
<input type="checkbox"/>	Fair (3)
<input checked="" type="checkbox"/>	Poor to fair (2)
<input type="checkbox"/>	Poor (1)

Check all disturbances observed

<input checked="" type="checkbox"/>	mowing	<input type="checkbox"/>	shrub/sapling removal
<input type="checkbox"/>	grazing	<input type="checkbox"/>	herbaceous/aquatic bed removal
<input type="checkbox"/>	clearcutting	<input type="checkbox"/>	sedimentation
<input type="checkbox"/>	selective cutting	<input type="checkbox"/>	dredging
<input type="checkbox"/>	woody debris removal	<input type="checkbox"/>	farming
<input type="checkbox"/>	toxic pollutants	<input type="checkbox"/>	nutrient enrichment

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild	Date: June 1, 2020
Wetland: Wetland 025	Rater: BL, SM

38 subtotal first page

38 0

Subtotal Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- ☐ Bog (10 pts)
- ☐ Fen (10 pts)
- ☐ Old Growth Forest (10 pts)
- ☐ Mature forested wetland (5 pts)
- ☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- ☐ Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- ☐ Lake Plain Sand Prairies (Oak Openings) (10 pts)
- ☐ Relict Wet Prairies (10 pts)
- ☐ Known occurrence state/federal threatened or endangered species (10)
- ☐ Significant migratory songbird/waterfowl habitat or usage (10 pts)
- ☐ Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

40 2

Subtotal Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- ☐ Aquatic bed
- 1 ☐ Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other (list)

6b. Horizontal (plan view) interspersions

Select only one

- ☐ High (5)
- ☐ Moderately high (4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- x ☐ None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- ☐ Extensive >75 % cover (-5)
- ☐ Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☐ Nearly Absent <5% cover (0)
- x ☐ Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- 0 ☐ Vegetated hummocks/tussocks
- 0 ☐ Coarse woody debris >15 cm (6")
- 0 ☐ Standing dead > 25 cm (10") dbh
- 0 ☐ Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

40 GRAND TOTAL (max 100 pts)

Provisional Wetland Category:

modified 2

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 025	
Date: June 1, 2020	
Description: PEM wetland Category 2 Facing North	

Wetland 025	
Date: June 1, 2020	
Description: PEM wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 025	
Date: June 1, 2020	
Description: PEM wetland Category 2 Facing South	

Wetland 025	
Date: June 1, 2020	
Description: PEM wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 025	
Date: June 1, 2020	
Description: PEM wetland Category 2 Soil Pit	

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Muskingum Sampling Date: 01-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: w-bl-20200601-01
 Investigator(s): BL, SKM Section, Township, Range: S 35 T 17N R 15W
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): concave Slope: 10.0 % / 84.3 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.830149 Long.: -82.168645 Datum: NAD83
 Soil Map Unit Name: WuD2 - Westmoreland-Guernsey silt loams, 15 to 25 percent NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point in for wetland 026 (w-bl-20200601-01). Wetland is a drainage swale, drains to southwest directly to s-bl-20200601-03. Wetland is fully delineated.	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
Primary Indicators (minimum of one required; check all that apply)			
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>2</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>6</u>		
Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Multiple primary hydrology indicators present. Primary source of hydrology is concentration of precipitation and surface runoff in geomorphic position. Drains to southwest directly to intermittent stream.			

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

Sampling Point: **w-bl-20200601-01**

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)			
1. <u>Salix X fragilis</u>	5	<input checked="" type="checkbox"/> 100.0%	FAC
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Herb Stratum (Plot size: <u>5' r</u>)			
1. <u>Carex lupulina</u>	30	<input checked="" type="checkbox"/> 31.3%	OBL
2. <u>Scirpus atrovirens</u>	15	<input checked="" type="checkbox"/> 15.6%	OBL
3. <u>Poa palustris</u>	15	<input checked="" type="checkbox"/> 15.6%	FACW
4. <u>Eupatorium perfoliatum</u>	10	<input type="checkbox"/> 10.4%	FACW
5. <u>Euthamia graminifolia</u>	10	<input type="checkbox"/> 10.4%	FAC
6. <u>Juncus effusus</u>	5	<input type="checkbox"/> 5.2%	FACW
7. <u>Mimulus ringens</u>	5	<input type="checkbox"/> 5.2%	OBL
8. <u>Onoclea sensibilis</u>	3	<input type="checkbox"/> 3.1%	FACW
9. <u>Rumex verticillatus</u>	3	<input type="checkbox"/> 3.1%	OBL
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Woody Vine Stratum (Plot size: <u>15' r</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
= 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 <u>53</u>	x 1 = <u>53</u>
FACW species <u>33</u>	x 2 = <u>66</u>
FAC species <u>15</u>	x 3 = <u>45</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Total s: <u>101</u> (A)	<u>164</u> (B)
Prevalence Index = B/A = <u>1.624</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0** ¹

☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation ¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicator present as dominance test > 50%, dominant species are OBL, FACW and FAC

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: **w-bl-20200601-01**

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-2	10YR	4/2	100						Silt Loam	
2-11	10Y	4/1	95	10YR	3/4	5	C	PL	Clay Loam	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

Hydric soil indicators present as gleyed matrix with redox concentrations in pore linings

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Muskingum Sampling Date: 01-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: upl-bl-20200601-01
 Investigator(s): BL, SKM Section, Township, Range: S 35 T 17N R 15W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope: 20.0 % / 87.1 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.83016 Long.: -82.16868 Datum: NAD83
 Soil Map Unit Name: WuD2 - Westmoreland-Guernsey silt loams, 15 to 25 percent NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Point out to wetland 026 (w-bl-20200601-01), located about 10 feet west of wetland boundary. Not a wetland point as hydric soil and hydrology criteria not met.	

Hydrology

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

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)			
1. <u>Elaeagnus umbellata</u>	20	<input checked="" type="checkbox"/> 69.0%	UPL
2. <u>Rubus occidentalis</u>	5	<input type="checkbox"/> 17.2%	UPL
3. <u>Cornus florida</u>	2	<input type="checkbox"/> 6.9%	FACU
4. <u>Juglans nigra</u>	2	<input type="checkbox"/> 6.9%	FACU
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
29 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Herb Stratum (Plot size: <u>5' r</u>)			
1. <u>Solidago altissima</u>	20	<input checked="" type="checkbox"/> 26.7%	FACU
2. <u>Euthamia graminifolia</u>	15	<input checked="" type="checkbox"/> 20.0%	FAC
3. <u>Dichanthelium clandestinum</u>	10	<input checked="" type="checkbox"/> 13.3%	FAC
4. <u>Vernonia gigantea</u>	10	<input checked="" type="checkbox"/> 13.3%	FAC
5. <u>Elymus virginicus</u>	10	<input checked="" type="checkbox"/> 13.3%	FACW
6. <u>Agrimonia parviflora</u>	5	<input type="checkbox"/> 6.7%	FACW
7. <u>Rubus idaeus</u>	5	<input type="checkbox"/> 6.7%	FAC
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
75 = Total Cover			
Woody Vine Stratum (Plot size: <u>15' r</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
0 = 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 <u>0</u>	x 1 = <u>0</u>
FACW species <u>15</u>	x 2 = <u>30</u>
FAC species <u>40</u>	x 3 = <u>120</u>
FACU species <u>24</u>	x 4 = <u>96</u>
UPL species <u>25</u>	x 5 = <u>125</u>
Column Totals: <u>104</u> (A)	<u>371</u> (B)
Prevalence Index = B/A = <u>3.567</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☐ Prevalence Index is ≤ 3.0 ¹

☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation ¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicator present as dominance test > 50%, dominant species are FAC, FACW, FACU and UPL

Soil

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-5	10YR	5/3	100						Silt Loam	
5-17	2.5Y	5/3	90	10YR	4/6	10	C	PL	Silty Clay Loam	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☒

Remarks:

No hydric soil indicators present.

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Date: June 1, 2020
Wetland: Wetland 026	Rater: BL, SM

0	0
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)

w-bl-20200601-01

Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input checked="" type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

12	12
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)2a. Calculate average buffer width (select one, do not double check)

<input checked="" type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input checked="" type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

29	17
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input type="checkbox"/>	Between stream/lake and other human use (1)
<input checked="" type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input checked="" type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input checked="" type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

<input type="checkbox"/>	(select one or double check & average)
<input type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input type="checkbox"/>	Regularly inundated/saturated (3)
<input type="checkbox"/>	Seasonally inundated (2)
<input checked="" type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.(select one or double check & average)

<input checked="" type="checkbox"/>	None or none apparent (12)
<input type="checkbox"/>	Recovered (7)
<input type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed

<input type="checkbox"/>	ditch	<input type="checkbox"/>	point source (nonstormwater)
<input type="checkbox"/>	dike	<input type="checkbox"/>	filling/grading
<input type="checkbox"/>	tile	<input type="checkbox"/>	road bed/RR track
<input type="checkbox"/>	weir	<input type="checkbox"/>	dredging
<input type="checkbox"/>	stormwater input	<input type="checkbox"/>	other - list

39	10
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)4a. Substrate disturbance. Score one or double check and average.

<input checked="" type="checkbox"/>	None or none apparent (4)
<input type="checkbox"/>	Recovered (3)
<input type="checkbox"/>	Recovering (2)
<input type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (9)
<input type="checkbox"/>	Recovered (6)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input type="checkbox"/>	Good (5)
<input type="checkbox"/>	Moderately good (4)
<input checked="" type="checkbox"/>	Fair (3)
<input type="checkbox"/>	Poor to fair (2)
<input type="checkbox"/>	Poor (1)

Check all disturbances observed

<input checked="" type="checkbox"/>	mowing	<input type="checkbox"/>	shrub/sapling removal
<input type="checkbox"/>	grazing	<input type="checkbox"/>	herbaceous/aquatic bed removal
<input type="checkbox"/>	clearcutting	<input type="checkbox"/>	sedimentation
<input type="checkbox"/>	selective cutting	<input type="checkbox"/>	dredging
<input type="checkbox"/>	woody debris removal	<input type="checkbox"/>	farming
<input type="checkbox"/>	toxic pollutants	<input type="checkbox"/>	nutrient enrichment

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild	Date: June 1, 2020
Wetland: Wetland 026	Rater: BL, SM

39 subtotal first page

39	0
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Subtotal Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- | | |
|--------------------------|--|
| <input type="checkbox"/> | Bog (10 pts) |
| <input type="checkbox"/> | Fen (10 pts) |
| <input type="checkbox"/> | Old Growth Forest (10 pts) |
| <input type="checkbox"/> | Mature forested wetland (5 pts) |
| <input type="checkbox"/> | Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts) |
| <input type="checkbox"/> | Lake Erie coastal/tributary wetland-restricted hydrology (5 pts) |
| <input type="checkbox"/> | Lake Plain Sand Prairies (Oak Openings) (10 pts) |
| <input type="checkbox"/> | Relict Wet Prairies (10 pts) |
| <input type="checkbox"/> | Known occurrence state/federal threatened or endangered species (10) |
| <input type="checkbox"/> | Significant migratory songbird/waterfowl habitat or usage (10 pts) |
| <input type="checkbox"/> | Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts) |

42	3
----	---

Subtotal Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- | | |
|--------------------------|--------------|
| <input type="checkbox"/> | Aquatic bed |
| 2 | Emergent |
| <input type="checkbox"/> | Shrub |
| <input type="checkbox"/> | Forest |
| <input type="checkbox"/> | Mudflats |
| <input type="checkbox"/> | Open water |
| <input type="checkbox"/> | Other (list) |

6b. Horizontal (plan view) interspersions

Select only one

- | | |
|--------------------------|---------------------|
| <input type="checkbox"/> | High (5) |
| <input type="checkbox"/> | Moderately high (4) |
| <input type="checkbox"/> | Moderate (3) |
| <input type="checkbox"/> | Moderately low (2) |
| <input type="checkbox"/> | Low (1) |
| x | None (0) |

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- | | |
|--------------------------|-----------------------------|
| <input type="checkbox"/> | Extensive >75 % cover (-5) |
| <input type="checkbox"/> | Moderate 25-75% cover (-3) |
| <input type="checkbox"/> | Sparse 5-25% cover (-1) |
| <input type="checkbox"/> | Nearly Absent <5% cover (0) |
| x | Absent (1) |

6d. Microtopography

Score all present using 0 to 3 scale

- | | |
|---|---------------------------------|
| 0 | Vegetated hummocks/tussocks |
| 0 | Coarse woody debris >15 cm (6") |
| 0 | Standing dead > 25 cm (10") dbh |
| 0 | Amphibian breeding pools |

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

42 GRAND TOTAL (max 100 pts)

Provisional Wetland Category:

modified 2

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 026	
Date: June 1, 2020	
Description: PEM wetland Category 2 Facing North	

Wetland 026	
Date: June 1, 2020	
Description: PEM wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 026	
Date: June 1, 2020	
Description: PEM wetland Category 2 Facing South	

Wetland 026	
Date: June 1, 2020	
Description: PEM wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 026	
Date: June 1, 2020	
Description: PEM wetland Category 2 Soil Pit	

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 03-Jun-20
Applicant/Owner: AEP State: OH Sampling Point: w-bl-20200603-01a
Investigator(s): BL, SKM Section, Township, Range: S 34 T 17N R 15W
Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): convex Slope: 10.0 % / 84.3 °
Subregion (LRR or MLRA): LRR N Lat.: 39.83403 Long.: -82.1759 Datum: NAD83
Soil Map Unit Name: GwC - Guernsey-Westmoreland silt loams, 8 to 15 percent slopes NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sampling point in for Wetland 027a, PEM component of larger PEM/PFO wetland complex. Wetland is a hillside seep area across ROW, partially located in residential yard. Wetland is partially disturbed due to residential mowing. Wetland is potentially isolated; drains to southeast and southwest.	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>			
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)	
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>3</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>8</u>		
Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>4</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Multiple primary and secondary hydrology indicators present. Primary sources of hydrology are groundwater seepage and precipitation. Wetland drains to southeast and to southwest by upland drainage features towards intermittent stream 034, potentially isolated.			

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

Sampling Point: **w-bl-20200603-01a**

Tree Stratum (Plot size: <u>30'</u> radius)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15'</u> radius)			
1. <u>Rubus occidentalis</u>	5	<input checked="" type="checkbox"/> 62.5%	UPL
2. <u>Ulmus americana</u>	3	<input checked="" type="checkbox"/> 37.5%	FACW
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
8 = Total Cover			
Shrub Stratum (Plot size: <u>0</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Herb Stratum (Plot size: <u>5'</u> radius)			
1. <u>Phalaris arundinacea</u>	50	<input checked="" type="checkbox"/> 54.3%	FACW
2. <u>Poa compressa</u>	15	<input type="checkbox"/> 16.3%	FACU
3. <u>Scirpus atrovirens</u>	10	<input type="checkbox"/> 10.9%	OBL
4. <u>Onoclea sensibilis</u>	5	<input type="checkbox"/> 5.4%	FACW
5. <u>Dichanthelium clandestinum</u>	5	<input type="checkbox"/> 5.4%	FAC
6. <u>Eleocharis obtusa</u>	5	<input type="checkbox"/> 5.4%	OBL
7. <u>Asclepias syriaca</u>	2	<input type="checkbox"/> 2.2%	FACU
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
92 = Total Cover			
Woody Vine Stratum (Plot size: <u>15'</u> radius)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
0 = 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 <u>15</u>	x 1 = <u>15</u>
FACW species <u>58</u>	x 2 = <u>116</u>
FAC species <u>5</u>	x 3 = <u>15</u>
FACU species <u>17</u>	x 4 = <u>68</u>
UPL species <u>5</u>	x 5 = <u>25</u>
Column Totals: <u>100</u> (A)	<u>239</u> (B)
Prevalence Index = B/A = <u>2.390</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicator present dominance test > 50%, dominant species are FACW and UPL

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: **w-bl-20200603-01a**

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-1	10YR	3/3	100						Silt Loam	
1-9	5Y	7/2	90	10YR	5/6	10	C	PL	Sandy Clay Loam	prominent redox concentrations
9-17	5Y	6/2	70	5Y	6/4	20	C	M	Sandy Clay Loam	redox concentrations in pore linings also
				5Y	4/1	10	RM	M		

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

hydric soil indicator present as depleted matrix with prominent redox concentrations in sandy soil

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 03-Jun-20
Applicant/Owner: AEP State: OH Sampling Point: w-bl-20200603-01b
Investigator(s): BL, SKM Section, Township, Range: S 34 T 17N R 15W
Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): convex Slope: 10.0 % / 84.3 °
Subregion (LRR or MLRA): LRR N Lat.: 39.83409 Long.: -82.17623 Datum: NAD83
Soil Map Unit Name: GwC - Guernsey-Westmoreland silt loams, 8 to 15 percent slopes NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sampling point in for Wetland 027b, PFO component of larger PEM/PFO wetland complex. Wetland is a hillside seep area near edge of ROW. Wetland is potentially isolated; drains to southwest off-site, no obvious drainage feature present.	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)	
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <u>0</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>10</u>		
Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>4</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Multiple primary and secondary hydrology indicators present. Primary sources of hydrology are groundwater seepage and precipitation. Wetland drains to southwest off-site, no obvious drainage feature present, potentially isolated.			

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

Sampling Point: **w-bl-20200603-01b**

Tree Stratum (Plot size: <u>30'</u> radius)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <u>Acer rubrum</u>	<u>60</u>	<input checked="" type="checkbox"/> 92.3%	<u>FAC</u>
2. <u>Prunus serotina</u>	<u>5</u>	<input type="checkbox"/> 7.7%	<u>FACU</u>
3. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
4. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
5. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
6. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
7. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
8. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
65 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15'</u> radius)			
1. <u>Acer rubrum</u>	<u>30</u>	<input checked="" type="checkbox"/> 46.2%	<u>FAC</u>
2. <u>Magnolia acuminata</u>	<u>15</u>	<input checked="" type="checkbox"/> 23.1%	<u>FACU</u>
3. <u>Fraxinus pennsylvanica</u>	<u>10</u>	<input type="checkbox"/> 15.4%	<u>FACW</u>
4. <u>Liriodendron tulipifera</u>	<u>10</u>	<input type="checkbox"/> 15.4%	<u>FACU</u>
5. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
6. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
7. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
8. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
9. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
10. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
65 = Total Cover			
Shrub Stratum (Plot size: <u>0</u>)			
1. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
2. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
3. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
4. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
5. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
6. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
7. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Herb Stratum (Plot size: <u>5'</u> radius)			
1. <u>Woodwardia areolata</u>	<u>70</u>	<input checked="" type="checkbox"/> 100.0%	<u>FACW</u>
2. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
3. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
4. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
5. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
6. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
7. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
8. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
9. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
10. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
11. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
12. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
70 = Total Cover			
Woody Vine Stratum (Plot size: <u>15'</u> radius)			
1. <u>Smilax rotundifolia</u>	<u>5</u>	<input checked="" type="checkbox"/> 100.0%	<u>FAC</u>
2. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
3. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
4. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
5. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
6. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
5 = 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 <u>0</u>	x 1 = <u>0</u>
FACW species <u>80</u>	x 2 = <u>160</u>
FAC species <u>95</u>	x 3 = <u>285</u>
FACU species <u>30</u>	x 4 = <u>120</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>205</u> (A)	<u>565</u> (B)
Prevalence Index = B/A = <u>2.756</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicator present dominance test > 50%, dominant species are FACW, FAC and FACU

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: **w-bl-20200603-01b**

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-4	10YR	4/2	100						Silt Loam	
4-17	2.5Y	6/2	90	10YR	4/4	10	C	PL	Sandy Clay Loam	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

hydric soil indicator present as depleted matrix with prominent redox concentrations in sandy soil

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 03-Jun-20
Applicant/Owner: AEP State: OH Sampling Point: upl-bl-20200603-01ab
Investigator(s): BL, SKM Section, Township, Range: S 34 T 17N R 15W
Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): convex Slope: 15.0 % / 86.2 °
Subregion (LRR or MLRA): LRR N Lat.: 39.83411 Long.: -82.17589 Datum: NAD83
Soil Map Unit Name: GwC - Guernsey-Westmoreland silt loams, 8 to 15 percent slopes NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☒ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Sample point (Upland 027) out to Wetland 027, located approximately 5 feet north of wetland boundary. Soils are problematic- prior strip mine area. Not a wetland point, does not meet hydric soil or hydrology criteria	

Hydrology

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

Tree Stratum (Plot size: <u>30' radius</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <u>Liriodendron tulipifera</u>	30	<input checked="" type="checkbox"/> 54.5%	FACU
2. <u>Robinia pseudoacacia</u>	20	<input checked="" type="checkbox"/> 36.4%	FACU
3. <u>Prunus serotina</u>	5	<input type="checkbox"/> 9.1%	FACU
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
8. _____	0	<input type="checkbox"/> 0.0%	
55 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' radius</u>)			
1. <u>Liriodendron tulipifera</u>	15	<input checked="" type="checkbox"/> 31.3%	FACU
2. <u>Rubus occidentalis</u>	15	<input checked="" type="checkbox"/> 31.3%	UPL
3. <u>Robinia pseudoacacia</u>	10	<input checked="" type="checkbox"/> 20.8%	FACU
4. <u>Juglans nigra</u>	5	<input type="checkbox"/> 10.4%	FACU
5. <u>Ulmus americana</u>	3	<input type="checkbox"/> 6.3%	FACW
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
8. _____	0	<input type="checkbox"/> 0.0%	
9. _____	0	<input type="checkbox"/> 0.0%	
10. _____	0	<input type="checkbox"/> 0.0%	
48 = Total Cover			
Shrub Stratum (Plot size: <u>0</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	
2. _____	0	<input type="checkbox"/> 0.0%	
3. _____	0	<input type="checkbox"/> 0.0%	
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
0 = Total Cover			
Herb Stratum (Plot size: <u>5' radius</u>)			
1. <u>Phalaris arundinacea</u>	30	<input checked="" type="checkbox"/> 39.5%	FACW
2. <u>Woodwardia areolata</u>	20	<input checked="" type="checkbox"/> 26.3%	FACW
3. <u>Impatiens pallida</u>	20	<input checked="" type="checkbox"/> 26.3%	FACW
4. <u>Juncus effusus</u>	3	<input type="checkbox"/> 3.9%	FACW
5. <u>Acer rubrum</u>	3	<input type="checkbox"/> 3.9%	FAC
6. _____	0	<input type="checkbox"/> 0.0%	
7. _____	0	<input type="checkbox"/> 0.0%	
8. _____	0	<input type="checkbox"/> 0.0%	
9. _____	0	<input type="checkbox"/> 0.0%	
10. _____	0	<input type="checkbox"/> 0.0%	
11. _____	0	<input type="checkbox"/> 0.0%	
12. _____	0	<input type="checkbox"/> 0.0%	
76 = Total Cover			
Woody Vine Stratum (Plot size: <u>15' radius</u>)			
1. <u>Vitis riparia</u>	2	<input type="checkbox"/> 100.0%	FACW
2. _____	0	<input type="checkbox"/> 0.0%	
3. _____	0	<input type="checkbox"/> 0.0%	
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
6. _____	0	<input type="checkbox"/> 0.0%	
2 = 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: 8 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 37.5% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>78</u>	x 2 = <u>156</u>
FAC species <u>3</u>	x 3 = <u>9</u>
FACU species <u>85</u>	x 4 = <u>340</u>
UPL species <u>15</u>	x 5 = <u>75</u>
Column Totals: <u>181</u> (A)	<u>580</u> (B)
Prevalence Index = B/A = <u>3.204</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☐ No ☒

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

No hydrophytic vegetation indicators present, dominant species are FACW, FACU and UPL

Soil

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR	4/2	100				Sandy Loam	
2-7	2.5Y	4/4	100				Sandy Clay Loam	
7-12	2.5Y	6/6	100				Sandy Clay Loam	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils³:

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

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 ☒

Remarks:

No hydric soil indicators present

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Date: June 3, 2020
Wetland: w-bl-20200603-01ab	Rater: BL, SM

1	1
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input checked="" type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

6	5
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)2a. Calculate average buffer width (select one, do not double check)

<input type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input checked="" type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input checked="" type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input checked="" type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

22	16
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input checked="" type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input type="checkbox"/>	Between stream/lake and other human use (1)
<input checked="" type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input checked="" type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

<input type="checkbox"/>	(select one or double check & average)
<input type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input checked="" type="checkbox"/>	Regularly inundated/saturated (3)
<input type="checkbox"/>	Seasonally inundated (2)
<input type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.(select one or double check & average)

<input type="checkbox"/>	None or none apparent (12)
<input checked="" type="checkbox"/>	Recovered (7)
<input type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed

<input type="checkbox"/>	ditch	<input type="checkbox"/>	point source (nonstormwater)
<input type="checkbox"/>	dike	<input type="checkbox"/>	filling/grading
<input type="checkbox"/>	tile	<input type="checkbox"/>	road bed/RR track
<input type="checkbox"/>	weir	<input type="checkbox"/>	dredging
<input type="checkbox"/>	stormwater input	<input checked="" type="checkbox"/>	other - list

31	9
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)

Other - Strip Mining

4a. Substrate disturbance. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (4)
<input checked="" type="checkbox"/>	Recovered (3)
<input type="checkbox"/>	Recovering (2)
<input type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (9)
<input type="checkbox"/>	Recovered (6)
<input checked="" type="checkbox"/>	Recovering (3)
<input checked="" type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input type="checkbox"/>	Good (5)
<input checked="" type="checkbox"/>	Moderately good (4)
<input type="checkbox"/>	Fair (3)
<input type="checkbox"/>	Poor to fair (2)
<input type="checkbox"/>	Poor (1)

Check all disturbances observed

<input checked="" type="checkbox"/>	mowing	<input type="checkbox"/>	shrub/sapling removal
<input type="checkbox"/>	grazing	<input type="checkbox"/>	herbaceous/aquatic bed removal
<input type="checkbox"/>	clearcutting	<input type="checkbox"/>	sedimentation
<input type="checkbox"/>	selective cutting	<input type="checkbox"/>	dredging
<input type="checkbox"/>	woody debris removal	<input type="checkbox"/>	farming
<input type="checkbox"/>	toxic pollutants	<input type="checkbox"/>	nutrient enrichment

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild	Date: June 3, 2020
Wetland: w-bl-20200603-01ab	Rater: BL, SM

31 subtotal first page

31 0

Subtotal Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

<input type="checkbox"/>	Bog (10 pts)
<input type="checkbox"/>	Fen (10 pts)
<input type="checkbox"/>	Old Growth Forest (10 pts)
<input type="checkbox"/>	Mature forested wetland (5 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
<input type="checkbox"/>	Lake Plain Sand Prairies (Oak Openings) (10 pts)
<input type="checkbox"/>	Relict Wet Prairies (10 pts)
<input type="checkbox"/>	Known occurrence state/federal threatened or endangered species (10)
<input type="checkbox"/>	Significant migratory songbird/waterfowl habitat or usage (10 pts)
<input type="checkbox"/>	Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

32 1

Subtotal Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

<input type="checkbox"/>	0	Aquatic bed
<input type="checkbox"/>	0	Emergent
<input type="checkbox"/>	0	Shrub
<input type="checkbox"/>	1	Forest
<input type="checkbox"/>	0	Mudflats
<input type="checkbox"/>	0	Open water
<input type="checkbox"/>		Other (list)

6b. Horizontal (plan view) interspersions

Select only one

<input type="checkbox"/>	High (5)
<input type="checkbox"/>	Moderately high (4)
<input type="checkbox"/>	Moderate (3)
<input type="checkbox"/>	Moderately low (2)
<input checked="" type="checkbox"/>	Low (1)
<input type="checkbox"/>	None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

<input type="checkbox"/>	Extensive >75 % cover (-5)
<input checked="" type="checkbox"/>	Moderate 25-75% cover (-3)
<input type="checkbox"/>	Sparse 5-25% cover (-1)
<input type="checkbox"/>	Nearly Absent <5% cover (0)
<input type="checkbox"/>	Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

<input type="checkbox"/>	1	Vegetated hummocks/tussocks
<input type="checkbox"/>	1	Coarse woody debris >15 cm (6")
<input type="checkbox"/>	0	Standing dead > 25 cm (10") dbh
<input type="checkbox"/>	0	Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

32 GRAND TOTAL (max 100 pts)

Provisional Wetland Category:

Modified Category 2

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 027a	
Date: June 3, 2020	
Description: PEM wetland Category 2 Facing North	

Wetland 027a	
Date: June 3, 2020	
Description: PEM wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 027a	
Date: June 3, 2020	
Description: PEM wetland Category 2 Facing South	

Wetland 027a	
Date: June 3, 2020	
Description: PEM wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 027a	
Date: June 3, 2020	
Description: PEM wetland Category 2 Soil Pit	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 027b	
Date: June 3, 2020	
Description: PFO wetland Category 2 Facing North	

Wetland 027b	
Date: June 3, 2020	
Description: PFO wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 027b	
Date: June 3, 2020	
Description: PFO wetland Category 2 Facing South	

Wetland 027b	
Date: June 3, 2020	
Description: PFO wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 027b	
Date: June 3, 2020	
Description: PFO wetland Category 2 Soil Pit	

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 02-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: w-bl-20200602-11
 Investigator(s): BL, SKM Section, Township, Range: S 34 T 17N R 15W
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): concave Slope: 3.0 % / 71.6 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.83471 Long.: -82.1771 Datum: NAD83
 Soil Map Unit Name: GwC - Guernsey-Westmoreland silt loams, 8 to 15 percent slopes NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☒ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point in for PSS wetland 028. Wetland is located in swale of old strip mine area. Spoil piles and coal fines present (naturally problematic soils). Groundwater seepage observed at northern boundary. Wetland extends to south towards wetland 029.	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
Primary Indicators (minimum of one required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>12</u>		
Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>10</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Multiple primary and secondary hydrology indicators present. Primary source of hydrology groundwater seepage as observed and concentration of precipitation and surface runoff in swale.			

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

Sampling Point: **w-bl-20200602-11**

Tree Stratum (Plot size: 30' r)		Absolute % Cover	Species? Rel.Strat. Cover	Indicator Status
1.	Acer saccharinum	5	<input checked="" type="checkbox"/> 100.0%	FACW
2.		0	<input type="checkbox"/> 0.0%	
3.		0	<input type="checkbox"/> 0.0%	
4.		0	<input type="checkbox"/> 0.0%	
5.		0	<input type="checkbox"/> 0.0%	
6.		0	<input type="checkbox"/> 0.0%	
7.		0	<input type="checkbox"/> 0.0%	
8.		0	<input type="checkbox"/> 0.0%	
		5	= Total Cover	
Sapling-Sapling/Shrub Stratum (Plot size: 15' r)		Absolute % Cover	Species? Rel.Strat. Cover	Indicator Status
1.	Acer saccharinum	15	<input checked="" type="checkbox"/> 34.9%	FACW
2.	Acer rubrum	10	<input checked="" type="checkbox"/> 23.3%	FAC
3.	Lindera benzoin	10	<input checked="" type="checkbox"/> 23.3%	FAC
4.	Ulmus rubra	5	<input type="checkbox"/> 11.6%	FAC
5.	Populus deltoides	3	<input type="checkbox"/> 7.0%	FAC
6.		0	<input type="checkbox"/> 0.0%	
7.		0	<input type="checkbox"/> 0.0%	
8.		0	<input type="checkbox"/> 0.0%	
9.		0	<input type="checkbox"/> 0.0%	
10.		0	<input type="checkbox"/> 0.0%	
		43	= Total Cover	
Shrub Stratum (Plot size:)		Absolute % Cover	Species? Rel.Strat. Cover	Indicator Status
1.		0	<input type="checkbox"/> 0.0%	
2.		0	<input type="checkbox"/> 0.0%	
3.		0	<input type="checkbox"/> 0.0%	
4.		0	<input type="checkbox"/> 0.0%	
5.		0	<input type="checkbox"/> 0.0%	
6.		0	<input type="checkbox"/> 0.0%	
7.		0	<input type="checkbox"/> 0.0%	
		0	= Total Cover	
Herb Stratum (Plot size: 5' r)		Absolute % Cover	Species? Rel.Strat. Cover	Indicator Status
1.	Woodwardia areolata	30	<input checked="" type="checkbox"/> 75.0%	FACW
2.	Parathelypteris noveboracensis	10	<input checked="" type="checkbox"/> 25.0%	FAC
3.		0	<input type="checkbox"/> 0.0%	
4.		0	<input type="checkbox"/> 0.0%	
5.		0	<input type="checkbox"/> 0.0%	
6.		0	<input type="checkbox"/> 0.0%	
7.		0	<input type="checkbox"/> 0.0%	
8.		0	<input type="checkbox"/> 0.0%	
9.		0	<input type="checkbox"/> 0.0%	
10.		0	<input type="checkbox"/> 0.0%	
11.		0	<input type="checkbox"/> 0.0%	
12.		0	<input type="checkbox"/> 0.0%	
		40	= Total Cover	
Woody Vine Stratum (Plot size: 15' r)		Absolute % Cover	Species? Rel.Strat. Cover	Indicator Status
1.	Toxicodendron radicans	5	<input checked="" type="checkbox"/> 100.0%	FAC
2.		0	<input type="checkbox"/> 0.0%	
3.		0	<input type="checkbox"/> 0.0%	
4.		0	<input type="checkbox"/> 0.0%	
5.		0	<input type="checkbox"/> 0.0%	
6.		0	<input type="checkbox"/> 0.0%	
		5	= 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:	7	(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	50	x 2 =	100
FAC species	43	x 3 =	129
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Total s:	93	(A)	229 (B)
Prevalence Index = B/A =		2.462	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is ≤ 3.0 ¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicator present dominance test > 50%, dominant species are FACW and FAC

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-1	10YR	4/2	100						Silt Loam	
1-16	10YR	5/1	90	10YR	4/4	10	C	PL	Sandy Clay Loam	distinct redox concentrations

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

Hydric soil indicator present as depleted matrix in sandy soils starting less than or equal to 6" depth with distinct redox concentrations as pore linings. Soils are naturally problematic due to past strip-mining activities.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 02-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: upl-bl-20200602-09
 Investigator(s): BL, SKM Section, Township, Range: S 34 T 17N R 15W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): convex Slope: 10.0 % / 84.3 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.83504 Long.: -82.17744 Datum: NAD83
 Soil Map Unit Name: GWD - Guernsey-Westmoreland silt loams, 15 to 25 percent slopes NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Point out (Upland 028) to wetland 028 and wetland 029, about 5' east of wetland 028 and 30' northwest of wetland 029. Not a wetland point, no wetland criteria met.	

Hydrology

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

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <u>Liriodendron tulipifera</u>	<u>10</u>	<input checked="" type="checkbox"/> 100.0%	<u>FACU</u>
2. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
3. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
4. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
5. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
6. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
7. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
8. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
10 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)			
1. <u>Prunus serotina</u>	<u>15</u>	<input checked="" type="checkbox"/> 39.5%	<u>FACU</u>
2. <u>Acer rubrum</u>	<u>10</u>	<input checked="" type="checkbox"/> 26.3%	<u>FAC</u>
3. <u>Ulmus rubra</u>	<u>5</u>	<input type="checkbox"/> 13.2%	<u>FAC</u>
4. <u>Rosa multiflora</u>	<u>5</u>	<input type="checkbox"/> 13.2%	<u>FACU</u>
5. <u>Liquidambar styraciflua</u>	<u>3</u>	<input type="checkbox"/> 7.9%	<u>FAC</u>
6. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
7. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
8. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
9. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
10. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
38 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
2. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
3. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
4. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
5. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
6. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
7. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Herb Stratum (Plot size: <u>5' r</u>)			
1. <u>Polystichum acrostichoides</u>	<u>30</u>	<input checked="" type="checkbox"/> 48.4%	<u>FACU</u>
2. <u>Equisetum hyemale</u>	<u>20</u>	<input checked="" type="checkbox"/> 32.3%	<u>FACW</u>
3. <u>Onoclea sensibilis</u>	<u>5</u>	<input type="checkbox"/> 8.1%	<u>FACW</u>
4. <u>Smilax rotundifolia</u>	<u>5</u>	<input type="checkbox"/> 8.1%	<u>FAC</u>
5. <u>Panicum virgatum</u>	<u>2</u>	<input type="checkbox"/> 3.2%	<u>FAC</u>
6. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
7. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
8. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
9. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
10. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
11. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
12. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
62 = Total Cover			
Woody Vine Stratum (Plot size: <u>15' r</u>)			
1. <u>Smilax rotundifolia</u>	<u>3</u>	<input type="checkbox"/> 100.0%	<u>FAC</u>
2. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
3. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
4. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
5. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
6. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
3 = 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: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 40.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>25</u>	x 2 = <u>50</u>
FAC species <u>28</u>	x 3 = <u>84</u>
FACU species <u>60</u>	x 4 = <u>240</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>113</u> (A)	<u>374</u> (B)
Prevalence Index = B/A = <u>3.310</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0** ¹

☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation ¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☐ No ☒

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

No hydrophytic vegetation indicators present, dominant species are FACW, FAC and FACU.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR	4/3	100				Sandy Loam	
4-16	10YR	6/6	100				Sandy Clay Loam	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils³:

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

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 ☒

Remarks:

No hydric soil indicators present.

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Date: June 2, 2020
Wetland: w-bl-20200602-11	Rater: BL, SM

1	1
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input checked="" type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

13	12
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)2a. Calculate average buffer width (select one, do not double check)

<input checked="" type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input checked="" type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

27	14
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input checked="" type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input type="checkbox"/>	Between stream/lake and other human use (1)
<input checked="" type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input checked="" type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

<input type="checkbox"/>	(select one or double check & average)
<input type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input type="checkbox"/>	Regularly inundated/saturated (3)
<input type="checkbox"/>	Seasonally inundated (2)
<input checked="" type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.(select one or double check & average)

<input type="checkbox"/>	None or none apparent (12)
<input checked="" type="checkbox"/>	Recovered (7)
<input type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed

<input type="checkbox"/>	ditch	<input type="checkbox"/>	point source (nonstormwater)
<input type="checkbox"/>	dike	<input type="checkbox"/>	filling/grading
<input type="checkbox"/>	tile	<input type="checkbox"/>	road bed/RR track
<input type="checkbox"/>	weir	<input type="checkbox"/>	dredging
<input type="checkbox"/>	stormwater input	<input checked="" type="checkbox"/>	other - list

35	8
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)

Other - Strip Mining

4a. Substrate disturbance. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (4)
<input checked="" type="checkbox"/>	Recovered (3)
<input type="checkbox"/>	Recovering (2)
<input type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (9)
<input type="checkbox"/>	Recovered (6)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input type="checkbox"/>	Good (5)
<input type="checkbox"/>	Moderately good (4)
<input type="checkbox"/>	Fair (3)
<input checked="" type="checkbox"/>	Poor to fair (2)
<input type="checkbox"/>	Poor (1)

Check all disturbances observed

<input type="checkbox"/>	mowing	<input type="checkbox"/>	shrub/sapling removal
<input type="checkbox"/>	grazing	<input type="checkbox"/>	herbaceous/aquatic bed removal
<input checked="" type="checkbox"/>	clearcutting	<input type="checkbox"/>	sedimentation
<input type="checkbox"/>	selective cutting	<input type="checkbox"/>	dredging
<input type="checkbox"/>	woody debris removal	<input type="checkbox"/>	farming
<input type="checkbox"/>	toxic pollutants	<input type="checkbox"/>	nutrient enrichment

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild	Date: June 2, 2020
Wetland: w-bl-20200602-11	Rater: BL, SM

35 subtotal first page

35 0

Subtotal Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

<input type="checkbox"/>	Bog (10 pts)
<input type="checkbox"/>	Fen (10 pts)
<input type="checkbox"/>	Old Growth Forest (10 pts)
<input type="checkbox"/>	Mature forested wetland (5 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
<input type="checkbox"/>	Lake Plain Sand Prairies (Oak Openings) (10 pts)
<input type="checkbox"/>	Relict Wet Prairies (10 pts)
<input type="checkbox"/>	Known occurrence state/federal threatened or endangered species (10)
<input type="checkbox"/>	Significant migratory songbird/waterfowl habitat or usage (10 pts)
<input type="checkbox"/>	Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

40 5

Subtotal Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

0	Aquatic bed
0	Emergent
1	Shrub
0	Forest
0	Mudflats
0	Open water
	Other (list)

6b. Horizontal (plan view) interspersions

Select only one

<input type="checkbox"/>	High (5)
<input type="checkbox"/>	Moderately high (4)
<input type="checkbox"/>	Moderate (3)
<input type="checkbox"/>	Moderately low (2)
<input type="checkbox"/>	Low (1)
x	None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

<input type="checkbox"/>	Extensive >75 % cover (-5)
<input type="checkbox"/>	Moderate 25-75% cover (-3)
<input type="checkbox"/>	Sparse 5-25% cover (-1)
<input type="checkbox"/>	Nearly Absent <5% cover (0)
x	Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

1	Vegetated hummocks/tussocks
1	Coarse woody debris >15 cm (6")
1	Standing dead > 25 cm (10") dbh
0	Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

40 GRAND TOTAL (max 100 pts)

Provisional Wetland Category:

modified 2

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 028	
Date: June 2, 2020	
Description: PFO wetland Category 2 Facing North	

Wetland 028	
Date: June 2, 2020	
Description: PFO wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 028	
Date: June 2, 2020	
Description: PFO wetland Category 2 Facing South	

Wetland 028	
Date: June 2, 2020	
Description: PFO wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 028	
Date: June 3, 2020	
Description: PFO wetland Category 2 Soil Pit	

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 02-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: w-bl-20200602-09
 Investigator(s): BL, SKM Section, Township, Range: S 34 T 17N R 15W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope: 2.0 % / 63.4 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.83518 Long.: -82.17765 Datum: NAD83
 Soil Map Unit Name: GWD - Guernsey-Westmoreland silt loams, 15 to 25 percent slopes NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☒ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point in for PSS wetland 029. Wetland is located in broad bottom valley of former strip mine area = problematic soils; significant iron oxide in soils and water table. Wetland extends to north and south, and drains to south by intermittent stream 035 (s-bl-20200602-07).	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>			
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0</u>		
Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Multiple primary and secondary hydrology indicators present. Primary source of hydrology is inflow from intermittent stream s-bl-20200602-07 and iron-rich groundwater seepage, iron-oxide deposits visible on surface. Wetland drains to southeast by intermittent stream s-bl-20200602-07 that drains southeast to Butcherknife Creek that drains east to Buckeye Fork that drains north to Jonathan Creek that drains east to Moxahala Creek that drains northeast to Muskingum River, a TNW.			

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

Sampling Point: **w-bl-20200602-09**

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1. <u>Acer rubrum</u>	10	<input checked="" type="checkbox"/> 100.0%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
10 = Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>15</u> x 1 = <u>15</u> FACW species <u>108</u> x 2 = <u>216</u> FAC species <u>33</u> x 3 = <u>99</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>156</u> (A) <u>330</u> (B) Prevalence Index = B/A = <u>2.115</u>
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)				
1. <u>Acer rubrum</u>	10	<input checked="" type="checkbox"/> 26.3%	FAC	
2. <u>Liquidambar styraciflua</u>	10	<input checked="" type="checkbox"/> 26.3%	FAC	
3. <u>Hypericum canadense</u>	10	<input checked="" type="checkbox"/> 26.3%	FACW	
4. <u>Acer saccharinum</u>	5	<input type="checkbox"/> 13.2%	FACW	
5. <u>Viburnum lentago</u>	3	<input type="checkbox"/> 7.9%	FAC	
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
38 = Total Cover				
Shrub Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
0 = Total Cover				
Herb Stratum (Plot size: <u>5' r</u>)				
1. <u>Equisetum hyemale</u>	60	<input checked="" type="checkbox"/> 55.6%	FACW	
2. <u>Onoclea sensibilis</u>	20	<input type="checkbox"/> 18.5%	FACW	
3. <u>Persicaria sagittata</u>	10	<input type="checkbox"/> 9.3%	OBL	
4. <u>Eutrochium maculatum</u>	8	<input type="checkbox"/> 7.4%	FACW	
5. <u>Juncus effusus</u>	5	<input type="checkbox"/> 4.6%	FACW	
6. <u>Carex frankii</u>	5	<input type="checkbox"/> 4.6%	OBL	
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
11. _____	0	<input type="checkbox"/> 0.0%		
12. _____	0	<input type="checkbox"/> 0.0%		
108 = Total Cover				
Woody Vine Stratum (Plot size: <u>15' r</u>)				
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
0 = Total Cover				

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0** ¹

☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation ¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicators present as dominance test > 50%, dominant species are FACW and FAC. Sphagnum spp. covers 15% of herb stratum, not used in dominance calculations (non-vascular plant).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	7.5YR	4/3	100				Sandy Loam	
3-12	2.5Y	4/3	100				Sandy Clay Loam	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

naturally problematic soils-- previous strip mining excavation activity. soils saturated at surface with iron-oxide deposits present. Sample point meets wetland criteria for hydrophytic vegetation and hydrology with problematic soils

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 02-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: upl-bl-20200602-10
 Investigator(s): BL, SKM Section, Township, Range: S 34 T 17N R 15W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): convex Slope: 15.0 % / 86.2 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.83511 Long.: -82.17821 Datum: NAD83
 Soil Map Unit Name: Bethesda-Pits, surface mine complex, 25 to 70 percent slopes, unreclaimed NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☒ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Point out (Upland 029) to wetland 030, located about 15 feet east of wetland on spoils pile. Soils are problematic from previous coal mining, unreclaimed. Not a wetland point, hydrophytic vegetation and hydrology criteria not met.	

Hydrology

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

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

Sampling Point: **upl-bl-20200602-10**

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <u>Carya cordiformis</u>	20	<input checked="" type="checkbox"/> 40.0%	FACU
2. <u>Acer saccharum</u>	20	<input checked="" type="checkbox"/> 40.0%	FACU
3. <u>Fagus grandifolia</u>	10	<input checked="" type="checkbox"/> 20.0%	FACU
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)			
1. <u>Fraxinus americana</u>	15	<input checked="" type="checkbox"/> 39.5%	FACU
2. <u>Lindera benzoin</u>	10	<input checked="" type="checkbox"/> 26.3%	FAC
3. <u>Acer saccharum</u>	10	<input checked="" type="checkbox"/> 26.3%	FACU
4. <u>Carya glabra</u>	3	<input type="checkbox"/> 7.9%	FACU
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
38 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Herb Stratum (Plot size: <u>5' r</u>)			
1. <u>Boehmeria cylindrica</u>	10	<input checked="" type="checkbox"/> 55.6%	FACW
2. <u>Rubus allegheniensis</u>	5	<input checked="" type="checkbox"/> 27.8%	FACU
3. <u>Quercus alba</u>	3	<input type="checkbox"/> 16.7%	FACU
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
18 = Total Cover			
Woody Vine Stratum (Plot size: <u>15' r</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
0 = 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: 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 <u>0</u>	x 1 = <u>0</u>
FACW species <u>10</u>	x 2 = <u>20</u>
FAC species <u>10</u>	x 3 = <u>30</u>
FACU species <u>86</u>	x 4 = <u>344</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>106</u> (A)	<u>394</u> (B)
Prevalence Index = B/A = <u>3.717</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0** ¹

☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation ¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks: (Include photo numbers here or on a separate sheet.)
No hydrophytic vegetation indicators present, dominant species are FACW, FAC and FACU.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-4	10YR	3/3	100						Sandy Loam	
4-15	10YR	6/2	90	10YR	5/4	10	C	M	Sandy Clay Loam	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☒

Remarks:

No hydric soil indicators present, low chroma layer starting less than 6" depth does not contain redox concentrations as soft masses or pore linings.

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Date: June 2, 2020
Wetland: w-bl-20200602-09	Rater: BL, SM

2	2
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input checked="" type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

14	12
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)2a. Calculate average buffer width (select one, do not double check)

<input checked="" type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input checked="" type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

34	20
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input checked="" type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input checked="" type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input type="checkbox"/>	Between stream/lake and other human use (1)
<input checked="" type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input checked="" type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input checked="" type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

<input type="checkbox"/>	(select one or double check & average)
<input type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input checked="" type="checkbox"/>	Regularly inundated/saturated (3)
<input type="checkbox"/>	Seasonally inundated (2)
<input type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.(select one or double check & average)

<input type="checkbox"/>	None or none apparent (12)
<input checked="" type="checkbox"/>	Recovered (7)
<input type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed

<input type="checkbox"/>	ditch	<input type="checkbox"/>	point source (nonstormwater)
<input type="checkbox"/>	dike	<input type="checkbox"/>	filling/grading
<input type="checkbox"/>	tile	<input type="checkbox"/>	road bed/RR track
<input type="checkbox"/>	weir	<input type="checkbox"/>	dredging
<input type="checkbox"/>	stormwater input	<input checked="" type="checkbox"/>	other - list

48	14
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)

Other - Strip Mining

4a. Substrate disturbance. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (4)
<input checked="" type="checkbox"/>	Recovered (3)
<input type="checkbox"/>	Recovering (2)
<input type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (9)
<input checked="" type="checkbox"/>	Recovered (6)
<input type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input checked="" type="checkbox"/>	Good (5)
<input type="checkbox"/>	Moderately good (4)
<input type="checkbox"/>	Fair (3)
<input type="checkbox"/>	Poor to fair (2)
<input type="checkbox"/>	Poor (1)

Check all disturbances observed

<input type="checkbox"/>	mowing	<input type="checkbox"/>	shrub/sapling removal
<input type="checkbox"/>	grazing	<input type="checkbox"/>	herbaceous/aquatic bed removal
<input checked="" type="checkbox"/>	clearcutting	<input type="checkbox"/>	sedimentation
<input type="checkbox"/>	selective cutting	<input type="checkbox"/>	dredging
<input type="checkbox"/>	woody debris removal	<input type="checkbox"/>	farming
<input type="checkbox"/>	toxic pollutants	<input type="checkbox"/>	nutrient enrichment

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild	Date: June 2, 2020
Wetland: w-bl-20200602-09	Rater: BL, SM

48 subtotal first page

48 0

Subtotal Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

<input type="checkbox"/>	Bog (10 pts)
<input type="checkbox"/>	Fen (10 pts)
<input type="checkbox"/>	Old Growth Forest (10 pts)
<input type="checkbox"/>	Mature forested wetland (5 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
<input type="checkbox"/>	Lake Plain Sand Prairies (Oak Openings) (10 pts)
<input type="checkbox"/>	Relict Wet Prairies (10 pts)
<input type="checkbox"/>	Known occurrence state/federal threatened or endangered species (10)
<input type="checkbox"/>	Significant migratory songbird/waterfowl habitat or usage (10 pts)
<input type="checkbox"/>	Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

59 11

Subtotal Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

0	Aquatic bed
2	Emergent
2	Shrub
1	Forest
0	Mudflats
0	Open water
	Other (list)

6b. Horizontal (plan view) interspersions

Select only one

<input type="checkbox"/>	High (5)
<input type="checkbox"/>	Moderately high (4)
<input type="checkbox"/>	Moderate (3)
<input type="checkbox"/>	Moderately low (2)
x	Low (1)
<input type="checkbox"/>	None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

<input type="checkbox"/>	Extensive >75 % cover (-5)
<input type="checkbox"/>	Moderate 25-75% cover (-3)
<input type="checkbox"/>	Sparse 5-25% cover (-1)
<input type="checkbox"/>	Nearly Absent <5% cover (0)
x	Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

1	Vegetated hummocks/tussocks
2	Coarse woody debris >15 cm (6")
0	Standing dead > 25 cm (10") dbh
1	Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

59 GRAND TOTAL (max 100 pts)

Provisional Wetland Category:

Category 2

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 029	
Date: June 2, 2020	
Description: PSS wetland Category 2 Facing North	

Wetland 029	
Date: June 2, 2020	
Description: PSS wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 029	
Date: June 2, 2020	
Description: PSS wetland Category 2 Facing South	

Wetland 029	
Date: June 2, 2020	
Description: PSS wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 029	
Date: June 2, 2020	
Description: PSS wetland Category 2 Soil Pit	

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 02-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: w-bl-20200602-10
 Investigator(s): BL, SKM Section, Township, Range: S 34 T 17N R 15W
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): concave Slope: 1.0 % / 45.0 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.83512 Long.: -82.17826 Datum: NAD83
 Soil Map Unit Name: Bethesda-Pits, surface mine complex, 25 to 70 percent slopes, unreclaimed NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☒ , Soil ☒ , or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point in for PFO wetland 030. Wetland is located in blocked channel of intermittent stream 036 (s-bl-20200602-06) in wooded area. Hydrology and vegetation are naturally problematic due to flooded stream channel with little vegetation present- not a pond. Wetland located in prior strip-mine area = problematic soils. Wetland is open ended to south and drains to north to intermittent stream 036 (s-bl-20200602-06) to intermittent stream 035 (s-bl-20200602-07).	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
Primary Indicators (minimum of one required; check all that apply)			
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input checked="" type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>3</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>6</u>		
Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: hydrology naturally problematic due to stream channel blockage by woody debris, may be periodic in nature.			

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

				Sampling Point: w-bl-20200602-10
Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
1. <u>Ulmus americana</u>	20	<input checked="" type="checkbox"/>	60.6%	FACW
2. <u>Carya glabra</u>	10	<input checked="" type="checkbox"/>	30.3%	FACU
3. <u>Fagus grandifolia</u>	3	<input type="checkbox"/>	9.1%	FACU
4. _____	0	<input type="checkbox"/>	0.0%	_____
5. _____	0	<input type="checkbox"/>	0.0%	_____
6. _____	0	<input type="checkbox"/>	0.0%	_____
7. _____	0	<input type="checkbox"/>	0.0%	_____
8. _____	0	<input type="checkbox"/>	0.0%	_____
		33	= Total Cover	
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
1. <u>Fraxinus pennsylvanica</u>	20	<input checked="" type="checkbox"/>	57.1%	FACW
2. <u>Lindera benzoin</u>	10	<input checked="" type="checkbox"/>	28.6%	FAC
3. <u>Carya glabra</u>	5	<input type="checkbox"/>	14.3%	FACU
4. _____	0	<input type="checkbox"/>	0.0%	_____
5. _____	0	<input type="checkbox"/>	0.0%	_____
6. _____	0	<input type="checkbox"/>	0.0%	_____
7. _____	0	<input type="checkbox"/>	0.0%	_____
8. _____	0	<input type="checkbox"/>	0.0%	_____
9. _____	0	<input type="checkbox"/>	0.0%	_____
10. _____	0	<input type="checkbox"/>	0.0%	_____
		35	= Total Cover	
Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
1. _____	0	<input type="checkbox"/>	0.0%	_____
2. _____	0	<input type="checkbox"/>	0.0%	_____
3. _____	0	<input type="checkbox"/>	0.0%	_____
4. _____	0	<input type="checkbox"/>	0.0%	_____
5. _____	0	<input type="checkbox"/>	0.0%	_____
6. _____	0	<input type="checkbox"/>	0.0%	_____
7. _____	0	<input type="checkbox"/>	0.0%	_____
		0	= Total Cover	
Herb Stratum (Plot size: <u>5' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
1. _____	0	<input type="checkbox"/>	0.0%	_____
2. _____	0	<input type="checkbox"/>	0.0%	_____
3. _____	0	<input type="checkbox"/>	0.0%	_____
4. _____	0	<input type="checkbox"/>	0.0%	_____
5. _____	0	<input type="checkbox"/>	0.0%	_____
6. _____	0	<input type="checkbox"/>	0.0%	_____
7. _____	0	<input type="checkbox"/>	0.0%	_____
8. _____	0	<input type="checkbox"/>	0.0%	_____
9. _____	0	<input type="checkbox"/>	0.0%	_____
10. _____	0	<input type="checkbox"/>	0.0%	_____
11. _____	0	<input type="checkbox"/>	0.0%	_____
12. _____	0	<input type="checkbox"/>	0.0%	_____
		0	= Total Cover	
Woody Vine Stratum (Plot size: <u>15' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
1. _____	0	<input type="checkbox"/>	0.0%	_____
2. _____	0	<input type="checkbox"/>	0.0%	_____
3. _____	0	<input type="checkbox"/>	0.0%	_____
4. _____	0	<input type="checkbox"/>	0.0%	_____
5. _____	0	<input type="checkbox"/>	0.0%	_____
6. _____	0	<input type="checkbox"/>	0.0%	_____
		0	= 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 <u>0</u>	x 1 = <u>0</u>
FACW species <u>40</u>	x 2 = <u>80</u>
FAC species <u>10</u>	x 3 = <u>30</u>
FACU species <u>18</u>	x 4 = <u>72</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>68</u> (A)	<u>182</u> (B)
Prevalence Index = B/A = <u>2.676</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0** ¹

☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation ¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicator present dominance test > 50%, dominant species are FACW, FAC and FACU. Vegetation naturally problematic as sparsely vegetated concave surface, vegetation present is limited to edges of wetland on higher elevations.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

US Army Corps of Engineers Eastern Mountains and Piedmont - Version 2.0

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project**Date:** June 2, 2020**Wetland:** w-bl-20200602-10**Rater:** BL, SM

0 0

Subtotal Points

Metric 1. Wetland Area (size). (max 6 pts)Select one size class and assign score.

- ☐ >50 acres (>20.2ha) (6 pts)
- ☐ 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- ☐ 10 to <25 acres (4 to <10.1ha) (4 pts)
- ☐ 3 to <10 acres (1.2 to <4ha) (3 pts)
- ☐ 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- ☐ 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- ☒ <0.1 acres (0.04ha) (0 pts)

12 12

Subtotal Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)2a. Calculate average buffer width (select one, do not double check)

- ☒ WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- ☐ MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- ☐ NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- ☐ VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

- ☐ VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- ☒ LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- ☐ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- ☐ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

29 17

Subtotal Points

Metric 3. Hydrology. (max 30 pts)3a. Sources of Water. Score all that apply.

- ☐ High pH groundwater (5)
- ☒ Other groundwater (3)
- ☒ Precipitation (1)
- ☐ Seasonal/Intermittent surface water (3)
- ☐ Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- ☐ 100 year floodplain (1)
- ☐ Between stream/lake and other human use (1)
- ☒ Part of wetland/upland (e.g. forest), complex (1)
- ☒ Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

- (select one or double check & average)
- ☐ Semi- to permanently inundated/saturated (4)
- ☒ Regularly inundated/saturated (3)
- ☐ Seasonally inundated (2)
- ☐ Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.(select one or double check & average)

- ☐ None or none apparent (12)
- ☒ Recovered (7)
- ☐ Recovering (3)
- ☐ Recent or no recovery (1)

Check all disturbances observed

- ☐ ditch ☐ point source (nonstormwater)
- ☐ dike ☐ filling/grading
- ☐ tile ☐ road bed/RR track
- ☐ weir ☐ dredging
- ☐ stormwater input ☒ other - list

39 10

Subtotal Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)

Other - Strip Mining

4a. Substrate disturbance. Score one or double check and average.

- ☐ None or none apparent (4)
- ☒ Recovered (3)
- ☐ Recovering (2)
- ☐ Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

- ☐ None or none apparent (9)
- ☐ Recovered (6)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

4b. Habitat development. Select one.

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☒ Moderately good (4)
- ☐ Fair (3)
- ☐ Poor to fair (2)
- ☐ Poor (1)

Check all disturbances observed

- ☐ mowing ☐ shrub/sapling removal
- ☐ grazing ☐ herbaceous/aquatic bed removal
- ☒ clearcutting ☐ sedimentation
- ☐ selective cutting ☐ dredging
- ☐ woody debris removal ☐ farming
- ☐ toxic pollutants ☐ nutrient enrichment

39 subtotal this page

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild	Date: June 2, 2020
Wetland: w-bl-20200602-10	Rater: BL, SM

39 subtotal first page

39	0
Subtotal	Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

<input type="checkbox"/>	Bog (10 pts)
<input type="checkbox"/>	Fen (10 pts)
<input type="checkbox"/>	Old Growth Forest (10 pts)
<input type="checkbox"/>	Mature forested wetland (5 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
<input type="checkbox"/>	Lake Plain Sand Prairies (Oak Openings) (10 pts)
<input type="checkbox"/>	Relict Wet Prairies (10 pts)
<input type="checkbox"/>	Known occurrence state/federal threatened or endangered species (10)
<input type="checkbox"/>	Significant migratory songbird/waterfowl habitat or usage (10 pts)
<input type="checkbox"/>	Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

44	5
Subtotal	Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

<input type="checkbox"/>	0	Aquatic bed
<input type="checkbox"/>	0	Emergent
<input type="checkbox"/>	0	Shrub
<input type="checkbox"/>	1	Forest
<input type="checkbox"/>	0	Mudflats
<input type="checkbox"/>	0	Open water
<input type="checkbox"/>		Other (list)

6b. Horizontal (plan view) interspersions

Select only one

<input type="checkbox"/>	High (5)
<input type="checkbox"/>	Moderately high (4)
<input type="checkbox"/>	Moderate (3)
<input type="checkbox"/>	Moderately low (2)
<input type="checkbox"/>	Low (1)
<input checked="" type="checkbox"/>	x None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

<input type="checkbox"/>	Extensive >75 % cover (-5)
<input type="checkbox"/>	Moderate 25-75% cover (-3)
<input type="checkbox"/>	Sparse 5-25% cover (-1)
<input type="checkbox"/>	Nearly Absent <5% cover (0)
<input checked="" type="checkbox"/>	x Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

<input type="checkbox"/>	0	Vegetated hummocks/tussocks
<input type="checkbox"/>	2	Coarse woody debris >15 cm (6")
<input type="checkbox"/>	0	Standing dead > 25 cm (10") dbh
<input type="checkbox"/>	1	Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality


44 **GRAND TOTAL (max 100 pts)**

Provisional Wetland Category:

modified 2

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 030	
Date: June 2, 2020	
Description: PFO wetland Category 2 Facing North	

Wetland 030	
Date: June 2, 2020	
Description: PFO wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 030	
Date: June 2, 2020	
Description: PFO wetland Category 2 Facing South	

Wetland 030	
Date: June 2, 2020	
Description: PFO wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 030	
Date: June 2, 2020	
Description: PFO wetland Category 2 Soil Pit	

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 02-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: w-bl-20200602-08
 Investigator(s): BL, SKM Section, Township, Range: S 27 T 17N R 15W
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): concave Slope: 5.0 % / 78.7 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.83574 Long.: -82.17827 Datum: NAD83
 Soil Map Unit Name: Bethesda-Pits, surface mine complex, 25 to 70 percent slopes, unreclaimed NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☒ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point in for PFO wetland 031. Wetland delineated by topography and saturated soils. Wetland located in historic strip mine area- soils naturally problematic due to evidence of iron oxide in water table. Wetland is open ended to the north and receives drainage from ephemeral stream 037 (s-bl-20200602-05) and drains to north off-site to intermittent stream 035 (s-bl-20200602-07).	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
Primary Indicators (minimum of one required; check all that apply)			
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	<input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)		
<input checked="" type="checkbox"/> Iron Deposits (B5)			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)			
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)			
<input type="checkbox"/> Aquatic Fauna (B13)			
Field Observations:			
Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>3</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0</u>		
Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Multiple primary and secondary hydrology indicators present. Primary source of hydrology is inflow from ephemeral stream s-bl-20200602-06 and iron-rich groundwater seepage, iron-oxide deposits visible on surface. Wetland drains to north to intermittent stream s-bl-20200602-07 that drains southeast to Butcherknife Creek that drains east to Buckeye Fork that drains north to Jonathan Creek that drains east to Moxahala Creek that drains northeast to Muskingum River, a TNW.			

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

Sampling Point: **w-bl-20200602-08**

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	
1. <u>Carya laciniosa</u>	40	<input checked="" type="checkbox"/>	100.0%	FAC
2. _____	0	<input type="checkbox"/>	0.0%	
3. _____	0	<input type="checkbox"/>	0.0%	
4. _____	0	<input type="checkbox"/>	0.0%	
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
8. _____	0	<input type="checkbox"/>	0.0%	
				40 = Total Cover
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)				
1. <u>Acer rubrum</u>	15	<input checked="" type="checkbox"/>	50.0%	FAC
2. <u>Liriodendron tulipifera</u>	5	<input checked="" type="checkbox"/>	16.7%	FACU
3. <u>Fraxinus pennsylvanica</u>	5	<input checked="" type="checkbox"/>	16.7%	FACW
4. <u>Ulmus americana</u>	5	<input checked="" type="checkbox"/>	16.7%	FACW
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
8. _____	0	<input type="checkbox"/>	0.0%	
9. _____	0	<input type="checkbox"/>	0.0%	
10. _____	0	<input type="checkbox"/>	0.0%	
				30 = Total Cover
Shrub Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/>	0.0%	
2. _____	0	<input type="checkbox"/>	0.0%	
3. _____	0	<input type="checkbox"/>	0.0%	
4. _____	0	<input type="checkbox"/>	0.0%	
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
				0 = Total Cover
Herb Stratum (Plot size: <u>5' r</u>)				
1. <u>Rubus setosus</u>	15	<input checked="" type="checkbox"/>	39.5%	FACW
2. <u>Carex granularis</u>	10	<input checked="" type="checkbox"/>	26.3%	FACW
3. <u>Impatiens pallida</u>	5	<input type="checkbox"/>	13.2%	FACW
4. <u>Parathelypteris noveboracensis</u>	5	<input type="checkbox"/>	13.2%	FAC
5. <u>Woodwardia areolata</u>	3	<input type="checkbox"/>	7.9%	FACW
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
8. _____	0	<input type="checkbox"/>	0.0%	
9. _____	0	<input type="checkbox"/>	0.0%	
10. _____	0	<input type="checkbox"/>	0.0%	
11. _____	0	<input type="checkbox"/>	0.0%	
12. _____	0	<input type="checkbox"/>	0.0%	
				38 = Total Cover
Woody Vine Stratum (Plot size: <u>15' r</u>)				
1. _____	0	<input type="checkbox"/>	0.0%	
2. _____	0	<input type="checkbox"/>	0.0%	
3. _____	0	<input type="checkbox"/>	0.0%	
4. _____	0	<input type="checkbox"/>	0.0%	
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
				0 = 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: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 85.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>43</u>	x 2 = <u>86</u>
FAC species <u>60</u>	x 3 = <u>180</u>
FACU species <u>5</u>	x 4 = <u>20</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>108</u> (A)	<u>286</u> (B)
Prevalence Index = B/A = <u>2.648</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0** ¹

☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation ¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicators present as dominance test > 50%, dominant species are FACW, FAC and FACU.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 2/1	100					Loam	
1-10	7.5YR 3/4	100					Loam	Frangible spoils

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

naturally problematic soils-- spoils present from previous strip mining excavation activity. Top layer is depleted with low chroma and low value, soils saturated at surface. Sample point meets wetland criteria for hydrophytic vegetation and hydrology with problematic soils.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 02-Jun-20
Applicant/Owner: AEP State: OH Sampling Point: upl-bl-20200602-08
Investigator(s): BL, SKM Section, Township, Range: S 34 T 17N R 15W
Landform (hillslope, terrace, etc.): Shoulder slope Local relief (concave, convex, none): convex Slope: 10.0 % / 84.3 °
Subregion (LRR or MLRA): LRR N Lat.: 39.83562 Long.: -82.17824 Datum: NAD83
Soil Map Unit Name: GWC - Guernsey-Westmoreland silt loams, 8 to 15 percent slopes NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Point out (Upland 030) to wetland 0318, about 15 feet southeast of wetland boundary. Not a wetland point, no wetland criteria met.	

Hydrology

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

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <u>Quercus rubra</u>	30	<input checked="" type="checkbox"/> 54.5%	FACU
2. <u>Carya ovata</u>	10	<input type="checkbox"/> 18.2%	FACU
3. <u>Ulmus americana</u>	10	<input type="checkbox"/> 18.2%	FACW
4. <u>Quercus alba</u>	5	<input type="checkbox"/> 9.1%	FACU
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
55 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)			
1. <u>Magnolia acuminata</u>	20	<input checked="" type="checkbox"/> 44.4%	FACU
2. <u>Fraxinus pennsylvanica</u>	15	<input checked="" type="checkbox"/> 33.3%	FACW
3. <u>Acer rubrum</u>	5	<input type="checkbox"/> 11.1%	FAC
4. <u>Quercus rubra</u>	3	<input type="checkbox"/> 6.7%	FACU
5. <u>Liriodendron tulipifera</u>	2	<input type="checkbox"/> 4.4%	FACU
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
45 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Herb Stratum (Plot size: <u>5' r</u>)			
1. <u>Podophyllum peltatum</u>	40	<input checked="" type="checkbox"/> 54.1%	FACU
2. <u>Toxicodendron radicans</u>	15	<input checked="" type="checkbox"/> 20.3%	FAC
3. <u>Poa palustris</u>	10	<input type="checkbox"/> 13.5%	FACW
4. <u>Acer rubrum</u>	5	<input type="checkbox"/> 6.8%	FAC
5. <u>Parthenocissus quinquefolia</u>	2	<input type="checkbox"/> 2.7%	FACU
6. <u>Urtica dioica</u>	2	<input type="checkbox"/> 2.7%	FACU
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
74 = Total Cover			
Woody Vine Stratum (Plot size: <u>15' r</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
0 = 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: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 40.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>35</u>	x 2 = <u>70</u>
FAC species <u>25</u>	x 3 = <u>75</u>
FACU species <u>114</u>	x 4 = <u>456</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>174</u> (A)	<u>601</u> (B)
Prevalence Index = B/A = <u>3.454</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks: (Include photo numbers here or on a separate sheet.)
No hydrophytic vegetation indicators present, dominant species are FACW, FAC and FACU.

Soil

Sampling Point: **upl-bl-20200602-08**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	2.5Y	4/2	100				Sandy Loam	
2-16	2.5Y	6/4	100				Sandy Loam	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☒

Remarks:

No hydric soil indicators present.

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Date: June 2, 2020
Wetland: Wetland 031	Rater: BL, SM

0	0
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)

w-bl-20200602-08

Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input checked="" type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

12	12
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)2a. Calculate average buffer width (select one, do not double check)

<input checked="" type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input checked="" type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

27.5	15.5
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input checked="" type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input type="checkbox"/>	Between stream/lake and other human use (1)
<input checked="" type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input checked="" type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input checked="" type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

<input type="checkbox"/>	(select one or double check & average)
<input type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input type="checkbox"/>	Regularly inundated/saturated (3)
<input checked="" type="checkbox"/>	Seasonally inundated (2)
<input checked="" type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.(select one or double check & average)

<input type="checkbox"/>	None or none apparent (12)
<input checked="" type="checkbox"/>	Recovered (7)
<input type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed

<input type="checkbox"/>	ditch	<input type="checkbox"/>	point source (nonstormwater)
<input type="checkbox"/>	dike	<input type="checkbox"/>	filling/grading
<input type="checkbox"/>	tile	<input type="checkbox"/>	road bed/RR track
<input type="checkbox"/>	weir	<input type="checkbox"/>	dredging
<input type="checkbox"/>	stormwater input	<input checked="" type="checkbox"/>	other - list

44.5	17
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)

Other - Strip Mining

4a. Substrate disturbance. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (4)
<input checked="" type="checkbox"/>	Recovered (3)
<input type="checkbox"/>	Recovering (2)
<input type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input checked="" type="checkbox"/>	None or none apparent (9)
<input type="checkbox"/>	Recovered (6)
<input type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input checked="" type="checkbox"/>	Good (5)
<input type="checkbox"/>	Moderately good (4)
<input type="checkbox"/>	Fair (3)
<input type="checkbox"/>	Poor to fair (2)
<input type="checkbox"/>	Poor (1)

Check all disturbances observed

<input type="checkbox"/>	mowing	<input type="checkbox"/>	shrub/sapling removal
<input type="checkbox"/>	grazing	<input type="checkbox"/>	herbaceous/aquatic bed removal
<input type="checkbox"/>	clearcutting	<input type="checkbox"/>	sedimentation
<input type="checkbox"/>	selective cutting	<input type="checkbox"/>	dredging
<input type="checkbox"/>	woody debris removal	<input type="checkbox"/>	farming
<input type="checkbox"/>	toxic pollutants	<input type="checkbox"/>	nutrient enrichment

44.5 subtotal this page

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild	Date: June 2, 2020
Wetland: Wetland 031	Rater: BL, SM

44.5 subtotal first page

44.5 0

Subtotal Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

<input type="checkbox"/>	Bog (10 pts)
<input type="checkbox"/>	Fen (10 pts)
<input type="checkbox"/>	Old Growth Forest (10 pts)
<input type="checkbox"/>	Mature forested wetland (5 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
<input type="checkbox"/>	Lake Plain Sand Prairies (Oak Openings) (10 pts)
<input type="checkbox"/>	Relict Wet Prairies (10 pts)
<input type="checkbox"/>	Known occurrence state/federal threatened or endangered species (10)
<input type="checkbox"/>	Significant migratory songbird/waterfowl habitat or usage (10 pts)
<input type="checkbox"/>	Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

50.5 6

Subtotal Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

<input type="checkbox"/>	Aquatic bed
0	Emergent
0	Shrub
2	Forest
<input type="checkbox"/>	Mudflats
<input type="checkbox"/>	Open water
<input type="checkbox"/>	Other (list)

6b. Horizontal (plan view) interspersions

Select only one

<input type="checkbox"/>	High (5)
<input type="checkbox"/>	Moderately high (4)
<input type="checkbox"/>	Moderate (3)
<input type="checkbox"/>	Moderately low (2)
<input type="checkbox"/>	Low (1)
x	None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

<input type="checkbox"/>	Extensive >75 % cover (-5)
<input type="checkbox"/>	Moderate 25-75% cover (-3)
<input type="checkbox"/>	Sparse 5-25% cover (-1)
<input type="checkbox"/>	Nearly Absent <5% cover (0)
x	Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

0	Vegetated hummocks/tussocks
2	Coarse woody debris >15 cm (6")
1	Standing dead > 25 cm (10") dbh
0	Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

50.5 **GRAND TOTAL (max 100 pts)**

Provisional Wetland Category:

Category 2

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 031	
Date: June 2, 2020	
Description: PFO wetland Category 2 Facing North	

Wetland 031	
Date: June 2, 2020	
Description: PFO wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 031	
Date: June 2, 2020	
Description: PFO wetland Category 2 Facing South	

Wetland 031	
Date: June 2, 2020	
Description: PFO wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 031	
Date: June 2, 2020	
Description: PFO wetland Category 2 Soil Pit	

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 02-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: w-bl-20200602-07a
 Investigator(s): BL, SKM Section, Township, Range: S 27 T 17N R 15W
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): concave Slope: 2.0 % / 63.4 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.83683 Long.: -82.18112 Datum: NAD83
 Soil Map Unit Name: Bhs4D - Bethesda channery silt loam, 8 to 25 percent slopes, unreclaimed NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☒ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point in for wetland 032a, PEM component of larger PEM/PSS wetland complex. Wetland boundary delineated by topography. Wetland drains south to ephemeral stream 038 (s-bl-20200602-04), potentially isolated. Wetland located in former strip-mined land = problematic soils.	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <u>0</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____		
Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Multiple primary and secondary hydrology indicators present. Primary source of hydrology is concentration of precipitation and surface runoff into drainage swale. Wetland drains to south to ephemeral stream s-bl-20200602-04 that flows southwest outside study area, potentially isolated.			

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

Sampling Point: **w-bl-20200602-07a**

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>15</u> x 1 = <u>15</u> FACW species <u>42</u> x 2 = <u>84</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>77</u> (A) <u>159</u> (B) Prevalence Index = B/A = <u>2.065</u>
1. <u>Liquidambar styraciflua</u>	3	<input type="checkbox"/> 75.0%	FAC	
2. <u>Acer rubrum</u>	1	<input type="checkbox"/> 25.0%	FAC	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: <u>5' r</u>)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. 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 stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. <u>Scirpus cyperinus</u>	30	<input checked="" type="checkbox"/> 44.1%	FACW	
2. <u>Scirpus atrovirens</u>	10	<input checked="" type="checkbox"/> 14.7%	OBL	
3. <u>Agrostis gigantea</u>	10	<input checked="" type="checkbox"/> 14.7%	FACW	
4. <u>Typha latifolia</u>	5	<input type="checkbox"/> 7.4%	OBL	
5. <u>Acer rubrum</u>	5	<input type="checkbox"/> 7.4%	FAC	
6. <u>Vernonia gigantea</u>	3	<input type="checkbox"/> 4.4%	FAC	
7. <u>Euthamia graminifolia</u>	3	<input type="checkbox"/> 4.4%	FAC	
8. <u>Ulmus americana</u>	2	<input type="checkbox"/> 2.9%	FACW	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: <u>15' r</u>)				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
1. <u>Toxicodendron radicans</u>	5	<input checked="" type="checkbox"/> 100.0%	FAC	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	5	<input type="checkbox"/> 0.0%	_____	

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

Hydrophytic vegetation indicator present dominance test > 50%, dominant species are OBL, FACW and FAC

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-2	10YR	3/2	100						Silt Loam	
2-11	10YR	4/1	90	10YR	5/6	10	C	PL	Sandy Clay Loam	prominent redox concentrations
11										gravel

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

Hydric soil indicator present as depleted matrix in sandy soils starting less than or equal to 6" depth with distinct redox concentrations as pore linings. Shovel refusal at 11" due to gravel.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 02-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: w-bl-20200602-07b
 Investigator(s): BL, SKM Section, Township, Range: S 27 T 17N R 15W
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): concave Slope: 5.0 % / 78.7 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.83711 Long.: -82.1809 Datum: NAD83
 Soil Map Unit Name: Bhs4D - Bethesda channery silt loam, 8 to 25 percent slopes, unreclaimed NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☒ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point in for wetland 032b, PSS component of larger PEM/PSS wetland complex. Wetland boundary delineated by topography. Wetland drains south to ephemeral stream 038 (s-bl-20200602-04), potentially isolated. Wetland located in former strip-mined land = problematic soils.	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <u>0</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>1</u>		
Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Multiple primary and secondary hydrology indicators present. Primary source of hydrology is concentration of precipitation and surface runoff into drainage swale. Wetland drains to south to ephemeral stream s-bl-20200602-04 that flows southwest outside study area, potentially isolated.			

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

Sampling Point: **w-bl-20200602-07b**

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)			
1. <u>Acer rubrum</u>	40	<input checked="" type="checkbox"/> 54.1%	FAC
2. <u>Salix interior</u>	20	<input checked="" type="checkbox"/> 27.0%	FACW
3. <u>Ulmus rubra</u>	10	<input type="checkbox"/> 13.5%	FAC
4. <u>Rosa multiflora</u>	2	<input type="checkbox"/> 2.7%	FACU
5. <u>Liriodendron tulipifera</u>	2	<input type="checkbox"/> 2.7%	FACU
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
74 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Herb Stratum (Plot size: <u>5' r</u>)			
1. <u>Solidago gigantea</u>	20	<input checked="" type="checkbox"/> 40.0%	FACW
2. <u>Agrimonia parviflora</u>	10	<input checked="" type="checkbox"/> 20.0%	FACW
3. <u>Carex lacustris</u>	10	<input checked="" type="checkbox"/> 20.0%	OBL
4. <u>Acer rubrum</u>	5	<input type="checkbox"/> 10.0%	FAC
5. <u>Rubus occidentalis</u>	3	<input type="checkbox"/> 6.0%	UPL
6. <u>Dichanthelium clandestinum</u>	2	<input type="checkbox"/> 4.0%	FAC
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
50 = Total Cover			
Woody Vine Stratum (Plot size: <u>15' r</u>)			
1. <u>Toxicodendron radicans</u>	5	<input checked="" type="checkbox"/> 100.0%	FAC
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
5 = 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 <u>10</u>	x 1 = <u>10</u>
FACW species <u>50</u>	x 2 = <u>100</u>
FAC species <u>62</u>	x 3 = <u>186</u>
FACU species <u>4</u>	x 4 = <u>16</u>
UPL species <u>3</u>	x 5 = <u>15</u>
Column Totals: <u>129</u> (A)	<u>327</u> (B)
Prevalence Index = B/A = <u>2.535</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0** ¹

☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation ¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicator present dominance test > 50%, dominant species are OBL, FACW and FAC

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: **w-bl-20200602-07b**

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

[illegible]

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

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

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 <input checked="" type="radio"/> No <input type="radio"/>
--	---

Remarks:	
Hydric soil indicator present as muck layer > 0.75 inches thick within 6" of surface, and depleted matrix in loamy soils starting less than or equal to 4" depth with distinct redox concentrations as pore linings.	

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 02-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: upl-bl-20200602-07
 Investigator(s): BL, SKM Section, Township, Range: S 27 T 17N R 15W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): convex Slope: 10.0 % / 84.3 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.83722 Long.: -82.18177 Datum: NAD83
 Soil Map Unit Name: Bethesda-Pits, surface mine complex, 8 to 25 percent slopes, unreclaimed NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☒ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Point out (Upland 031) to wetlands 032 and 033, about 10' east of wetland 033, 30' west of wetland 032. Location on un-reclaimed mine lands = problematic soils. Not a wetland point, hydric soil and hydrology criteria not met.	

Hydrology

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

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)			
1. <u>Alnus glutinosa</u>	15	<input checked="" type="checkbox"/> 53.6% FACW	_____
2. <u>Robinia pseudoacacia</u>	5	<input type="checkbox"/> 17.9% FACU	_____
3. <u>Rosa multiflora</u>	5	<input type="checkbox"/> 17.9% FACU	_____
4. <u>Hypericum prolificum</u>	3	<input type="checkbox"/> 10.7% FACU	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
28 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Herb Stratum (Plot size: <u>5' r</u>)			
1. <u>Elymus virginicus</u>	20	<input checked="" type="checkbox"/> 27.4% FACW	_____
2. <u>Agrimonia parviflora</u>	20	<input checked="" type="checkbox"/> 27.4% FACW	_____
3. <u>Solidago gigantea</u>	15	<input checked="" type="checkbox"/> 20.5% FACW	_____
4. <u>Poa palustris</u>	10	<input type="checkbox"/> 13.7% FACW	_____
5. <u>Agrostis gigantea</u>	5	<input type="checkbox"/> 6.8% FACW	_____
6. <u>Leucanthemum vulgare</u>	3	<input type="checkbox"/> 4.1% UPL	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
73 = Total Cover			
Woody Vine Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
0 = 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 <u>0</u>	x 1 = <u>0</u>
FACW species <u>85</u>	x 2 = <u>170</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>13</u>	x 4 = <u>52</u>
UPL species <u>3</u>	x 5 = <u>15</u>
Column Totals: <u>101</u> (A)	<u>237</u> (B)
Prevalence Index = B/A = <u>2.347</u>	

Hydrophytic Vegetation Indicators:

☒ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicators present as dominance test > 50%, dominant species are FACW and FACU.

Soil

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-2	10YR	4/3	100						Silt Loam	
2-9	10YR	4/4	80	10YR	3/2	20	D	M	Sandy Loam	
9-15	10YR	5/3	60	10YR	6/2	40	D	M	Sandy Clay Loam	

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147,148) |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

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 ☒

Remarks:

No hydric soil indicators present.

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Date: June 2, 2020
Wetland: w-bl-20200602-07	Rater: BL, SM

0	0
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input checked="" type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

11	11
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

<input checked="" type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input checked="" type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input checked="" type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

25.5	14.5
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input checked="" type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input type="checkbox"/>	Between stream/lake and other human use (1)
<input checked="" type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input checked="" type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

<u>(select one or double check & average)</u>	
<input type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input type="checkbox"/>	Regularly inundated/saturated (3)
<input checked="" type="checkbox"/>	Seasonally inundated (2)
<input checked="" type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

<input type="checkbox"/>	None or none apparent (12)
<input checked="" type="checkbox"/>	Recovered (7)
<input type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed

<input type="checkbox"/>	ditch	<input type="checkbox"/>	point source (nonstormwater)
<input type="checkbox"/>	dike	<input checked="" type="checkbox"/>	filling/grading
<input type="checkbox"/>	tile	<input type="checkbox"/>	road bed/RR track
<input type="checkbox"/>	weir	<input type="checkbox"/>	dredging
<input type="checkbox"/>	stormwater input	<input type="checkbox"/>	other - list

34.5	9
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (4)
<input checked="" type="checkbox"/>	Recovered (3)
<input type="checkbox"/>	Recovering (2)
<input type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (9)
<input type="checkbox"/>	Recovered (6)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input type="checkbox"/>	Good (5)
<input type="checkbox"/>	Moderately good (4)
<input checked="" type="checkbox"/>	Fair (3)
<input type="checkbox"/>	Poor to fair (2)
<input type="checkbox"/>	Poor (1)

Check all disturbances observed

<input checked="" type="checkbox"/>	mowing	<input type="checkbox"/>	shrub/sapling removal
<input type="checkbox"/>	grazing	<input type="checkbox"/>	herbaceous/aquatic bed removal
<input checked="" type="checkbox"/>	clearcutting	<input type="checkbox"/>	sedimentation
<input type="checkbox"/>	selective cutting	<input type="checkbox"/>	dredging
<input type="checkbox"/>	woody debris removal	<input type="checkbox"/>	farming
<input type="checkbox"/>	toxic pollutants	<input type="checkbox"/>	nutrient enrichment

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild	Date: June 2, 2020
Wetland: w-bl-20200602-07	Rater: BL, SM

34.5 subtotal first page

34.5 0

Subtotal Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

<input type="checkbox"/>	Bog (10 pts)
<input type="checkbox"/>	Fen (10 pts)
<input type="checkbox"/>	Old Growth Forest (10 pts)
<input type="checkbox"/>	Mature forested wetland (5 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
<input type="checkbox"/>	Lake Plain Sand Prairies (Oak Openings) (10 pts)
<input type="checkbox"/>	Relict Wet Prairies (10 pts)
<input type="checkbox"/>	Known occurrence state/federal threatened or endangered species (10)
<input type="checkbox"/>	Significant migratory songbird/waterfowl habitat or usage (10 pts)
<input type="checkbox"/>	Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

40.5 6

Subtotal Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

<input type="checkbox"/>	Aquatic bed
2	Emergent
0	Shrub
<input type="checkbox"/>	Forest
<input type="checkbox"/>	Mudflats
<input type="checkbox"/>	Open water
<input type="checkbox"/>	Other (list)

6b. Horizontal (plan view) interspersions

Select only one

<input type="checkbox"/>	High (5)
<input type="checkbox"/>	Moderately high (4)
<input type="checkbox"/>	Moderate (3)
<input type="checkbox"/>	Moderately low (2)
x	Low (1)
<input type="checkbox"/>	None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

<input type="checkbox"/>	Extensive >75 % cover (-5)
<input type="checkbox"/>	Moderate 25-75% cover (-3)
<input type="checkbox"/>	Sparse 5-25% cover (-1)
<input type="checkbox"/>	Nearly Absent <5% cover (0)
x	Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

1	Vegetated hummocks/tussocks
0	Coarse woody debris >15 cm (6")
0	Standing dead > 25 cm (10") dbh
1	Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

40.5 GRAND TOTAL (max 100 pts)

Provisional Wetland Category:

modified 2

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 032a	
Date: June 2, 2020	
Description: PEM wetland Category 2 Facing North	

Wetland 032a	
Date: June 2, 2020	
Description: PEM wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 032a	
Date: June 2, 2020	
Description: PEM wetland Category 2 Facing South	

Wetland 032a	
Date: June 2, 2020	
Description: PEM wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 032a	
Date: June 2, 2020	
Description: PEM wetland Category 2 Soil Pit	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 032b	
Date: June 2, 2020	
Description: PSS wetland Category 2 Facing North	

Wetland 032b	
Date: June 2, 2020	
Description: PSS wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 032b	
Date: June 2, 2020	
Description: PSS wetland Category 2 Facing South	

Wetland 032b	
Date: June 2, 2020	
Description: PSS wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 032b	
Date: June 2, 2020	
Description: PSS wetland Category 2 Soil Pit	

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 02-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: w-bl-20200602-06
 Investigator(s): BL, SKM Section, Township, Range: S 27 T 17N R 15W
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): concave Slope: 2.0 % / 63.4 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.83729 Long.: -82.18179 Datum: NAD83
 Soil Map Unit Name: Bethesda-Pits, surface mine complex, 25 to 70 percent slopes, unreclaimed NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☒ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point in for PEM wetland 033. Wetland is a wet meadow located in pasture. Wetland is located in a previously strip-mined area = problematic soils. Wetland extends to north outside study area and drains south to ephemeral stream 039 (s-bl-20200602-03) (potentially isolated).	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one required; check all that apply)</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <u>0</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____		
Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Multiple primary and secondary hydrology indicators present. Primary source of hydrology is concentration of precipitation and surface runoff into drainage swale. Wetland drains to south to ephemeral stream s-bl-20200602-03 that flows south outside study area.			

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

Sampling Point: **w-bl-20200602-06**

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1. _____	0	<input type="checkbox"/> 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>35</u> x 1 = <u>35</u> FACW species <u>45</u> x 2 = <u>90</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>105</u> (A) <u>205</u> (B) Prevalence Index = B/A = <u>1.952</u>
1. <u>Liquidambar styraciflua</u>	5	<input checked="" type="checkbox"/> 55.6%	FAC	
2. <u>Acer rubrum</u>	2	<input checked="" type="checkbox"/> 22.2%	FAC	
3. <u>Fraxinus pennsylvanica</u>	2	<input checked="" type="checkbox"/> 22.2%	FACW	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is > 50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
7. _____	0	<input type="checkbox"/> 0.0%	_____	
8. _____	0	<input type="checkbox"/> 0.0%	_____	
9. _____	0	<input type="checkbox"/> 0.0%	_____	
Herb Stratum (Plot size: <u>5' r</u>)				Definition of Vegetation Strata: Four Vegetation Strata: Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall. Woody vines – Consists of all woody vines greater than 3.28 ft in height. 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 stratum – Consists of woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub stratum – Consists of woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb stratum – Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 ft (1 m) in height. Woody vines – Consists of all woody vines, regardless of height.
1. <u>Carex vulpinoidea</u>	20	<input checked="" type="checkbox"/> 20.8%	OBL	
2. <u>Agrimonia parviflora</u>	20	<input checked="" type="checkbox"/> 20.8%	FACW	
3. <u>Scirpus atrovirens</u>	15	<input checked="" type="checkbox"/> 15.6%	OBL	
4. <u>Juncus effusus</u>	10	<input type="checkbox"/> 10.4%	FACW	
5. <u>Euthamia graminifolia</u>	10	<input type="checkbox"/> 10.4%	FAC	
6. <u>Agrostis gigantea</u>	10	<input type="checkbox"/> 10.4%	FACW	
7. <u>Medicago lupulina</u>	5	<input type="checkbox"/> 5.2%	FACU	
8. <u>Rumex crispus</u>	3	<input type="checkbox"/> 3.1%	FAC	
9. <u>Cyperus strigosus</u>	3	<input type="checkbox"/> 3.1%	FACW	
10. _____	0	<input type="checkbox"/> 0.0%	_____	
11. _____	0	<input type="checkbox"/> 0.0%	_____	
12. _____	0	<input type="checkbox"/> 0.0%	_____	
Woody Vine Stratum (Plot size: <u>15' r</u>)				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%	_____	
2. _____	0	<input type="checkbox"/> 0.0%	_____	
3. _____	0	<input type="checkbox"/> 0.0%	_____	
4. _____	0	<input type="checkbox"/> 0.0%	_____	
5. _____	0	<input type="checkbox"/> 0.0%	_____	
6. _____	0	<input type="checkbox"/> 0.0%	_____	
0 = Total Cover Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation indicator present dominance test > 50%, dominant species are OBL, FACW and FAC.				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-3	10YR	2/2	90	10YR	3/4	20	C	PL	Silt Loam	
3-16	10YR	5/1	80	10YR	5/6	20	C	PL	Sandy Clay Loam	distinct redox concentrations

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

Hydric soil indicator present as depleted matrix in sandy soils starting less than or equal to 6" depth with distinct redox concentrations as pore linings.

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Date: June 2, 2020
Wetland: w-bl-20200602-06	Rater: BL, SM

1	1
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input checked="" type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

12	11
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)2a. Calculate average buffer width (select one, do not double check)

<input checked="" type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input checked="" type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input checked="" type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

24	12
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input type="checkbox"/>	Between stream/lake and other human use (1)
<input checked="" type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input checked="" type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input checked="" type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

<input type="checkbox"/>	(select one or double check & average)
<input type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input type="checkbox"/>	Regularly inundated/saturated (3)
<input type="checkbox"/>	Seasonally inundated (2)
<input checked="" type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.(select one or double check & average)

<input type="checkbox"/>	None or none apparent (12)
<input checked="" type="checkbox"/>	Recovered (7)
<input type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed

<input type="checkbox"/>	ditch	<input type="checkbox"/>	point source (nonstormwater)
<input type="checkbox"/>	dike	<input checked="" type="checkbox"/>	filling/grading
<input type="checkbox"/>	tile	<input type="checkbox"/>	road bed/RR track
<input type="checkbox"/>	weir	<input type="checkbox"/>	dredging
<input type="checkbox"/>	stormwater input	<input type="checkbox"/>	other - list

33	9
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)4a. Substrate disturbance. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (4)
<input checked="" type="checkbox"/>	Recovered (3)
<input type="checkbox"/>	Recovering (2)
<input type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (9)
<input type="checkbox"/>	Recovered (6)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input type="checkbox"/>	Good (5)
<input type="checkbox"/>	Moderately good (4)
<input checked="" type="checkbox"/>	Fair (3)
<input type="checkbox"/>	Poor to fair (2)
<input type="checkbox"/>	Poor (1)

Check all disturbances observed

<input checked="" type="checkbox"/>	mowing	<input type="checkbox"/>	shrub/sapling removal
<input checked="" type="checkbox"/>	grazing	<input type="checkbox"/>	herbaceous/aquatic bed removal
<input type="checkbox"/>	clearcutting	<input type="checkbox"/>	sedimentation
<input type="checkbox"/>	selective cutting	<input type="checkbox"/>	dredging
<input type="checkbox"/>	woody debris removal	<input type="checkbox"/>	farming
<input type="checkbox"/>	toxic pollutants	<input type="checkbox"/>	nutrient enrichment

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild	Date: June 2, 2020
Wetland: w-bl-20200602-06	Rater: BL, SM

33 subtotal first page

33 0

Subtotal Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- ☐ Bog (10 pts)
- ☐ Fen (10 pts)
- ☐ Old Growth Forest (10 pts)
- ☐ Mature forested wetland (5 pts)
- ☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- ☐ Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- ☐ Lake Plain Sand Prairies (Oak Openings) (10 pts)
- ☐ Relict Wet Prairies (10 pts)
- ☐ Known occurrence state/federal threatened or endangered species (10)
- ☐ Significant migratory songbird/waterfowl habitat or usage (10 pts)
- ☐ Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

37 4

Subtotal Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- ☐ 0 Aquatic bed
- ☐ 1 Emergent
- ☐ 0 Shrub
- ☐ 0 Forest
- ☐ 0 Mudflats
- ☐ 0 Open water
- ☐ Other (list)

6b. Horizontal (plan view) interspersions

Select only one

- ☐ High (5)
- ☐ Moderately high (4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☒ Low (1)
- ☐ None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- ☐ Extensive >75 % cover (-5)
- ☐ Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☐ Nearly Absent <5% cover (0)
- ☒ Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- ☐ 1 Vegetated hummocks/tussocks
- ☐ 0 Coarse woody debris >15 cm (6")
- ☐ 0 Standing dead > 25 cm (10") dbh
- ☐ 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

37 GRAND TOTAL (max 100 pts)

Provisional Wetland Category:

modified 2

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 033	
Date: June 2, 2020	
Description: PEM wetland Category 2 Facing North	

Wetland 033	
Date: June 2, 2020	
Description: PEM wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 033	
Date: June 2, 2020	
Description: PEM wetland Category 2 Facing South	

Wetland 033	
Date: June 2, 2020	
Description: PEM wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 033	
Date: June 2, 2020	
Description: PEM wetland Category 2 Soil Pit	

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 02-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: w-bl-20200602-05a
 Investigator(s): BL, SKM Section, Township, Range: S 27 T 17N R 15W
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.84001 Long.: -82.18585 Datum: NAD83
 Soil Map Unit Name: Bhv1B - Bethesda silt loam, 0 to 8 percent slopes, reclaimed NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☒ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point in for wetland 034a, PEM component of larger PEM/PSS wetland. Wetland extends from southside of pond 10 (p-bl-20200602-02) into open field of ROW. Wetland fully delineated, located across reclaimed strip mined land, soils = problematic. No obvious downstream connection of pond to a stream (potentially isolated).	

Hydrology

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input checked="" type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): <u>0</u> Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Multiple primary and secondary hydrology indicators present. Primary source of hydrology is concentration of precipitation and surface runoff into low area and overflow from agricultural pond p-bl-20200602-02; pond appears to drain to north via overland flow to possible drainage feature going to north, potentially isolated.		

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

Sampling Point: **w-bl-20200602-05a**

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)			
1. <u>Alnus glutinosa</u>	15	<input checked="" type="checkbox"/> 51.7%	FACW
2. <u>Acer rubrum</u>	5	<input type="checkbox"/> 17.2%	FAC
3. <u>Liquidambar styraciflua</u>	5	<input type="checkbox"/> 17.2%	FAC
4. <u>Elaeagnus umbellata</u>	2	<input type="checkbox"/> 6.9%	UPL
5. <u>Ulmus americana</u>	2	<input type="checkbox"/> 6.9%	FACW
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
29 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Herb Stratum (Plot size: <u>5' r</u>)			
1. <u>Scirpus atrovirens</u>	20	<input checked="" type="checkbox"/> 23.5%	OBL
2. <u>Elymus virginicus</u>	20	<input checked="" type="checkbox"/> 23.5%	FACW
3. <u>Carex vulpinoidea</u>	10	<input checked="" type="checkbox"/> 11.8%	OBL
4. <u>Juncus effusus</u>	10	<input checked="" type="checkbox"/> 11.8%	FACW
5. <u>Scirpus cyperinus</u>	10	<input checked="" type="checkbox"/> 11.8%	FACW
6. <u>Dichanthelium clandestinum</u>	5	<input type="checkbox"/> 5.9%	FAC
7. <u>Solidago gigantea</u>	5	<input type="checkbox"/> 5.9%	FACW
8. <u>Juncus tenuis</u>	5	<input type="checkbox"/> 5.9%	FAC
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
85 = Total Cover			
Woody Vine Stratum (Plot size: <u>15' r</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
0 = 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 <u>30</u>	x 1 = <u>30</u>
FACW species <u>62</u>	x 2 = <u>124</u>
FAC species <u>20</u>	x 3 = <u>60</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>2</u>	x 5 = <u>10</u>
Column Total s: <u>114</u> (A)	<u>224</u> (B)
Prevalence Index = B/A = <u>1.965</u>	

Hydrophytic Vegetation Indicators:

☒ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicators present as rapid test, dominant species are OBL and FACW

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-2	2.5Y	3/2	100						Sandy Loam	
2-12	2.5Y	6/1	80	2.5Y	5/6	20	C	PL	Sandy Clay Loam	prominent redox concentrations in PL and M

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

Hydric soil indicator present as depleted matrix in sandy soils starting less than or equal to 6" depth with distinct redox concentrations as pore linings.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 02-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: w-bl-20200602-05b
 Investigator(s): BL, SKM Section, Township, Range: S 27 T 17N R 15W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope: 1.0 % / 45.0 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.8383 Long.: -82.1835 Datum: NAD83
 Soil Map Unit Name: Bhv1B - Bethesda silt loam, 0 to 8 percent slopes, reclaimed NWI classification: PUBGx

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☒ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point in for wetland 034b, PSS component of larger PEM/PSS wetland. Wetland extends from southside of pond 10 (p-bl-20200602-02) into open field (PEM) of ROW. Wetland fully delineated, located across reclaimed strip mined land, soils = problematic. Potentially isolated.	

Hydrology

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
Primary Indicators (minimum of one required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry Season Water Table (C2)	
<input checked="" type="checkbox"/> Drift deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): <u>0</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____		
Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Multiple primary and secondary hydrology indicators present. Primary source of hydrology is overflow from agricultural pond p-bl-20200602-02, pond appears to drain to north via overland flow to possible drainage feature going to north, potentially isolated.			

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

Sampling Point: **w-bl-20200602-05b**

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: 15' r)			
1. Fraxinus pennsylvanica	30	<input checked="" type="checkbox"/> 65.2%	FACW
2. Alnus glutinosa	5	<input type="checkbox"/> 10.9%	FACW
3. Acer rubrum	5	<input type="checkbox"/> 10.9%	FAC
4. Prunus serotina	3	<input type="checkbox"/> 6.5%	FACU
5. Elaeagnus umbellata	3	<input type="checkbox"/> 6.5%	UPL
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
46 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Herb Stratum (Plot size: 5' r)			
1. Elymus virginicus	30	<input checked="" type="checkbox"/> 51.7%	FACW
2. Dichanthelium clandestinum	10	<input type="checkbox"/> 17.2%	FAC
3. Agrimonia parviflora	5	<input type="checkbox"/> 8.6%	FACW
4. Toxicodendron radicans	5	<input type="checkbox"/> 8.6%	FAC
5. Scirpus atrovirens	5	<input type="checkbox"/> 8.6%	OBL
6. Asclepias syriaca	3	<input type="checkbox"/> 5.2%	FACU
7. _____	_____	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
58 = Total Cover			
Woody Vine Stratum (Plot size: 15' r)			
1. Parthenocissus quinquefolia	3	<input type="checkbox"/> 100.0%	FACU
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
3 = 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 <u>5</u>	x 1 = <u>5</u>
FACW species <u>70</u>	x 2 = <u>140</u>
FAC species <u>20</u>	x 3 = <u>60</u>
FACU species <u>9</u>	x 4 = <u>36</u>
UPL species <u>3</u>	x 5 = <u>15</u>
Column Totals: <u>107</u> (A)	<u>256</u> (B)
Prevalence Index = B/A = <u>2.393</u>	

Hydrophytic Vegetation Indicators:

☒ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicators present as rapid test, dominant species are FACW

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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

Depth (inches)	Matrix			Redox Features				Loc ²	Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹			
0-2	10YR	4/3	100						Sandy Loam	
2-4	10YR	5/3	100						Sandy Clay Loam	
4-10	10YR	4/1	80	10YR	6/6	20	C	PL	Sandy Clay Loam	prominent redox concentrations
10										gravel

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☐

Remarks:

Hydric soil indicator present as depleted matrix in sandy soils starting less than or equal to 6" depth with distinct redox concentrations as pore linings. Shovel refusal at 10" due to gravel.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 02-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: upl-bl-20200602-06
 Investigator(s): BL, SKM Section, Township, Range: S 27 T 17N R 15W
 Landform (hillslope, terrace, etc.): Bench Local relief (concave, convex, none): flat Slope: 0.0 % / 0.0 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.83824 Long.: -82.1834 Datum: NAD83
 Soil Map Unit Name: Bhv1B - Bethesda silt loam, 0 to 8 percent slopes, reclaimed NWI classification: N/A

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

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Point out to wetland 034 (Upland 032), located about 5 feet east of boundary in scrub/shrub edge. Area located on reclaimed strip-mine land = problematic soils. Not a wetland point, hydric soil and hydrology criteria not met.	

Hydrology

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

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)			
1. <u>Alnus glutinosa</u>	60	<input checked="" type="checkbox"/> 68.2%	FACW
2. <u>Elaeagnus umbellata</u>	10	<input type="checkbox"/> 11.4%	UPL
3. <u>Physocarpus opulifolius</u>	10	<input type="checkbox"/> 11.4%	FACW
4. <u>Rubus occidentalis</u>	5	<input type="checkbox"/> 5.7%	UPL
5. <u>Fraxinus pennsylvanica</u>	3	<input type="checkbox"/> 3.4%	FACW
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Herb Stratum (Plot size: <u>5' r</u>)			
1. <u>Elymus virginicus</u>	50	<input checked="" type="checkbox"/> 52.6%	FACW
2. <u>Alliaria petiolata</u>	20	<input checked="" type="checkbox"/> 21.1%	FACU
3. <u>Parthenocissus quinquefolia</u>	10	<input type="checkbox"/> 10.5%	FACU
4. <u>Solidago altissima</u>	10	<input type="checkbox"/> 10.5%	FACU
5. <u>Agrimonia parviflora</u>	5	<input type="checkbox"/> 5.3%	FACW
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Woody Vine Stratum (Plot size: <u>15' r</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
= 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 <u>0</u>	x 1 = <u>0</u>
FACW species <u>128</u>	x 2 = <u>256</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>40</u>	x 4 = <u>160</u>
UPL species <u>15</u>	x 5 = <u>75</u>
Column Total s: <u>183</u> (A)	<u>491</u> (B)
Prevalence Index = B/A = <u>2.683</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0** ¹

☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation ¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicator present dominance test > 50%, dominant species are FACW, FACU and UPL.

[illegible]

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Date: June 2, 2020
Wetland: w-bl-20200602-05	Rater: BL, SM

1	1
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input checked="" type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

12	11
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

<input checked="" type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input checked="" type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input checked="" type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

29	17
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input checked="" type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input checked="" type="checkbox"/>	Between stream/lake and other human use (1)
<input checked="" type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input checked="" type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

<u>(select one or double check & average)</u>	
<input type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input type="checkbox"/>	Regularly inundated/saturated (3)
<input type="checkbox"/>	Seasonally inundated (2)
<input checked="" type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

<input type="checkbox"/>	None or none apparent (12)
<input checked="" type="checkbox"/>	Recovered (7)
<input type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> tile	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other - list

38	9
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (4)
<input checked="" type="checkbox"/>	Recovered (3)
<input type="checkbox"/>	Recovering (2)
<input type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (9)
<input type="checkbox"/>	Recovered (6)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input type="checkbox"/>	Good (5)
<input type="checkbox"/>	Moderately good (4)
<input checked="" type="checkbox"/>	Fair (3)
<input type="checkbox"/>	Poor to fair (2)
<input type="checkbox"/>	Poor (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input checked="" type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild	Date: June 2, 2020
Wetland: w-bl-20200602-05	Rater: BL, SM

38 subtotal first page

38 0

Subtotal Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

<input type="checkbox"/>	Bog (10 pts)
<input type="checkbox"/>	Fen (10 pts)
<input type="checkbox"/>	Old Growth Forest (10 pts)
<input type="checkbox"/>	Mature forested wetland (5 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
<input type="checkbox"/>	Lake Plain Sand Prairies (Oak Openings) (10 pts)
<input type="checkbox"/>	Relict Wet Prairies (10 pts)
<input type="checkbox"/>	Known occurrence state/federal threatened or endangered species (10)
<input type="checkbox"/>	Significant migratory songbird/waterfowl habitat or usage (10 pts)
<input type="checkbox"/>	Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

43 5

Subtotal Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

<input type="checkbox"/>	0	Aquatic bed
<input type="checkbox"/>	1	Emergent
<input type="checkbox"/>	0	Shrub
<input type="checkbox"/>	0	Forest
<input type="checkbox"/>	0	Mudflats
<input type="checkbox"/>	0	Open water
<input type="checkbox"/>		Other (list)

6b. Horizontal (plan view) interspersions

Select only one

<input type="checkbox"/>	High (5)
<input type="checkbox"/>	Moderately high (4)
<input type="checkbox"/>	Moderate (3)
<input type="checkbox"/>	Moderately low (2)
<input checked="" type="checkbox"/>	Low (1)
<input type="checkbox"/>	None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

<input type="checkbox"/>	Extensive >75 % cover (-5)
<input type="checkbox"/>	Moderate 25-75% cover (-3)
<input type="checkbox"/>	Sparse 5-25% cover (-1)
<input type="checkbox"/>	Nearly Absent <5% cover (0)
<input checked="" type="checkbox"/>	Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

<input type="checkbox"/>	1	Vegetated hummocks/tussocks
<input type="checkbox"/>	0	Coarse woody debris >15 cm (6")
<input type="checkbox"/>	0	Standing dead > 25 cm (10") dbh
<input type="checkbox"/>	1	Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

43 GRAND TOTAL (max 100 pts)

Provisional Wetland Category:

modified 2

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 034a	
Date: June 2, 2020	
Description: PEM wetland Category 2 Facing North	

Wetland 034a	
Date: June 2, 2020	
Description: PEM wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 034a	
Date: June 2, 2020	
Description: PEM wetland Category 2 Facing South	

Wetland 034a	
Date: June 2, 2020	
Description: PEM wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 034a	
Date: June 2, 2020	
Description: PEM wetland Category 2 Soil Pit	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 034b	
Date: June 2, 2020	
Description: PSS wetland Category 2 Facing North	

Wetland 034b	
Date: June 2, 2020	
Description: PSS wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 034b	
Date: June 2, 2020	
Description: PSS wetland Category 2 Facing South	

Wetland 034b	
Date: June 2, 2020	
Description: PSS wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 034b	
Date: June 2, 2020	
Description: PSS wetland Category 2 Soil Pit	

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 02-Jun-20
Applicant/Owner: AEP State: OH Sampling Point: w-bl-20200602-04
Investigator(s): BL, SKM Section, Township, Range: S 27 T 17N R 15W
Landform (hillslope, terrace, etc.): Shoulder slope Local relief (concave, convex, none): 5 Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR N Lat.: 39.84001 Long.: -82.18585 Datum: NAD83
Soil Map Unit Name: WuE2 - Westmoreland-Guernsey silt loams, 25 to 40 percent slopes, eroded NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☒ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☒ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point in for PEM wetland 035. Area is disturbed, heavily eroded soils. Soils are shallow and very red (naturally problematic). Coal fines observed along north edge. Wetland is fully delineated, drains via UDF to southwest offsite to pond, potentially isolated.	

Hydrology

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

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

Sampling Point: **w-bl-20200602-04**

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' r</u>)			
1. <u>Rubus occidentalis</u>	5	<input checked="" type="checkbox"/> 38.5%	UPL
2. <u>Liquidambar styraciflua</u>	3	<input checked="" type="checkbox"/> 23.1%	FAC
3. <u>Hypericum prolificum</u>	3	<input checked="" type="checkbox"/> 23.1%	FACU
4. <u>Liriodendron tulipifera</u>	2	<input type="checkbox"/> 15.4%	FACU
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
13 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Herb Stratum (Plot size: <u>5' r</u>)			
1. <u>Scirpus cyperinus</u>	30	<input checked="" type="checkbox"/> 41.7%	FACW
2. <u>Juncus effusus</u>	20	<input checked="" type="checkbox"/> 27.8%	FACW
3. <u>Hypericum canadense</u>	10	<input type="checkbox"/> 13.9%	FACW
4. <u>Rubus setosus</u>	5	<input type="checkbox"/> 6.9%	FACW
5. <u>Potentilla canadensis</u>	5	<input type="checkbox"/> 6.9%	UPL
6. <u>Acer rubrum</u>	2	<input type="checkbox"/> 2.8%	FAC
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
72 = Total Cover			
Woody Vine Stratum (Plot size: <u>15' r</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
0 = 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: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>65</u>	x 2 = <u>130</u>
FAC species <u>5</u>	x 3 = <u>15</u>
FACU species <u>5</u>	x 4 = <u>20</u>
UPL species <u>10</u>	x 5 = <u>50</u>
Column Totals: <u>85</u> (A)	<u>215</u> (B)
Prevalence Index = B/A = <u>2.529</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

Hydrophytic vegetation indicators present as dominance test > 50%, dominant species are FACW, FAC, FACU and UPL. Sphagnum spp. covers 10% of herb stratum, not used in dominance calculations (non-vascular plant).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: **w-bl-20200602-04**

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

[illegible]

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

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

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 <input checked="" type="radio"/> No <input type="radio"/>
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Remarks:	
soils problematic and disturbed by past excavation activities in area and heavily eroded soils, redox concentrations in pore linings with some depleted matrix in dual/mixed matrix; location meets hydrophytic vegetation and hydrology criteris, deemed a wetland point with disturbed soils.	

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Perry Sampling Date: 02-Jun-20
 Applicant/Owner: AEP State: OH Sampling Point: upl-bl-20200602-04
 Investigator(s): BL, SKM Section, Township, Range: S 27 T 17N R 15W
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): convex Slope: 10.0 % / 84.3 °
 Subregion (LRR or MLRA): LRR N Lat.: 39.83982 Long.: -82.185596 Datum: NAD83
 Soil Map Unit Name: Bhs4D - Bethesda channery silt loam, 8 to 25 percent slopes, unreclaimed NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☒ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Point out to wetland 035 (Upland 034), about 5' south of boundary at slightly higher elevation. Shallow soils previously disturbed at wetland point in. Not a wetland point, hydrophytic vegetation and hydrology criteria not met.	

Hydrology

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

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

Sampling Point: **upl-bl-20200602-04**

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: 15' r)			
1. Liriodendron tulipifera	10	<input checked="" type="checkbox"/> 40.0%	FACU
2. Hypericum prolificum	10	<input checked="" type="checkbox"/> 40.0%	FACU
3. Rubus occidentalis	5	<input checked="" type="checkbox"/> 20.0%	UPL
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
25 = Total Cover			
Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
0 = Total Cover			
Herb Stratum (Plot size: 5' r)			
1. Potentilla canadensis	20	<input checked="" type="checkbox"/> 28.6%	UPL
2. Elymus virginicus	20	<input checked="" type="checkbox"/> 28.6%	FACW
3. Rubus hispidus	10	<input type="checkbox"/> 14.3%	FACW
4. Hypericum prolificum	10	<input type="checkbox"/> 14.3%	FACU
5. Schizachyrium scoparium	5	<input type="checkbox"/> 7.1%	FACU
6. Rubus setosus	5	<input type="checkbox"/> 7.1%	FACW
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
70 = Total Cover			
Woody Vine Stratum (Plot size: 15' r)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
0 = 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 <u>0</u>	x 1 = <u>0</u>
FACW species <u>35</u>	x 2 = <u>70</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>35</u>	x 4 = <u>140</u>
UPL species <u>25</u>	x 5 = <u>125</u>
Column Totals: <u>95</u> (A)	<u>335</u> (B)
Prevalence Index = B/A = <u>3.526</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0**¹

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

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Four Vegetation Strata:

Tree stratum – Consists of woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub stratum – Consists of woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb stratum – Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 ft tall.

Woody vines – Consists of all woody vines greater than 3.28 ft in height.

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

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

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

Woody vines – Consists of all woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks: (Include photo numbers here or on a separate sheet.)
No hydrophytic vegetation indicators present, dominant species are FACW, FACU and UPL.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-4	10YR	5/6	80	10YR	4/3	20	C	M	Sandy Clay Loam	
4-10	2.5Y	4/3	60	10YR	5/6	40	C	M	Sandy Clay Loam	
10										bedrock

¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

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 ☒

Remarks:

Shovel refusal at 10". No hydric soil indicators present.

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Date: June 2, 2020
Wetland: w-bl-20200602-04	Rater: BL, SM

0	0
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input checked="" type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

11	11
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

<input checked="" type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input checked="" type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input checked="" type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

18	7
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input type="checkbox"/>	Between stream/lake and other human use (1)
<input checked="" type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input checked="" type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

<input type="checkbox"/>	(select one or double check & average)
<input type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input type="checkbox"/>	Regularly inundated/saturated (3)
<input type="checkbox"/>	Seasonally inundated (2)
<input checked="" type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

<input type="checkbox"/>	None or none apparent (12)
<input type="checkbox"/>	Recovered (7)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed

<input type="checkbox"/>	ditch	<input type="checkbox"/>	point source (nonstormwater)
<input type="checkbox"/>	dike	<input checked="" type="checkbox"/>	filling/grading
<input type="checkbox"/>	tile	<input type="checkbox"/>	road bed/RR track
<input type="checkbox"/>	weir	<input type="checkbox"/>	dredging
<input type="checkbox"/>	stormwater input	<input type="checkbox"/>	other- list

25	7
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (4)
<input type="checkbox"/>	Recovered (3)
<input checked="" type="checkbox"/>	Recovering (2)
<input type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (9)
<input type="checkbox"/>	Recovered (6)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input type="checkbox"/>	Good (5)
<input type="checkbox"/>	Moderately good (4)
<input type="checkbox"/>	Fair (3)
<input checked="" type="checkbox"/>	Poor to fair (2)
<input type="checkbox"/>	Poor (1)

Check all disturbances observed

<input checked="" type="checkbox"/>	mowing	<input type="checkbox"/>	shrub/sapling removal
<input type="checkbox"/>	grazing	<input type="checkbox"/>	herbaceous/aquatic bed removal
<input checked="" type="checkbox"/>	clearcutting	<input checked="" type="checkbox"/>	sedimentation
<input type="checkbox"/>	selective cutting	<input type="checkbox"/>	dredging
<input type="checkbox"/>	woody debris removal	<input type="checkbox"/>	farming
<input type="checkbox"/>	toxic pollutants	<input type="checkbox"/>	nutrient enrichment

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild	Date: June 2, 2020
Wetland: w-bl-20200602-04	Rater: BL, SM

25 subtotal first page

25 0

Subtotal Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

<input type="checkbox"/>	Bog (10 pts)
<input type="checkbox"/>	Fen (10 pts)
<input type="checkbox"/>	Old Growth Forest (10 pts)
<input type="checkbox"/>	Mature forested wetland (5 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
<input type="checkbox"/>	Lake Plain Sand Prairies (Oak Openings) (10 pts)
<input type="checkbox"/>	Relict Wet Prairies (10 pts)
<input type="checkbox"/>	Known occurrence state/federal threatened or endangered species (10)
<input type="checkbox"/>	Significant migratory songbird/waterfowl habitat or usage (10 pts)
<input type="checkbox"/>	Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

29 4

Subtotal Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

<input type="checkbox"/>	Aquatic bed
1	Emergent
0	Shrub
<input type="checkbox"/>	Forest
<input type="checkbox"/>	Mudflats
<input type="checkbox"/>	Open water
<input type="checkbox"/>	Other (list)

6b. Horizontal (plan view) interspersions

Select only one

<input type="checkbox"/>	High (5)
<input type="checkbox"/>	Moderately high (4)
<input type="checkbox"/>	Moderate (3)
<input type="checkbox"/>	Moderately low (2)
x	Low (1)
<input type="checkbox"/>	None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

<input type="checkbox"/>	Extensive >75 % cover (-5)
<input type="checkbox"/>	Moderate 25-75% cover (-3)
<input type="checkbox"/>	Sparse 5-25% cover (-1)
<input type="checkbox"/>	Nearly Absent <5% cover (0)
x	Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

1	Vegetated hummocks/tussocks
0	Coarse woody debris >15 cm (6")
0	Standing dead > 25 cm (10") dbh
0	Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

29 GRAND TOTAL (max 100 pts)

Provisional Wetland Category:

Category 1

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 035	
Date: June 2, 2020	
Description: PEM wetland Category 1 Facing North	

Wetland 035	
Date: June 2, 2020	
Description: PEM wetland Category 1 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 035	
Date: June 2, 2020	
Description: PEM wetland Category 1 Facing South	

Wetland 035	
Date: June 2, 2020	
Description: PEM wetland Category 1 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 035	
Date: June 2, 2020	
Description: PEM wetland Category 1 Soil Pit	

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project City/County: Perry County Sampling Date: 06/03/2020
 Applicant/Owner: AEP State: OH Sampling Point: w-bl-20200603-02
 Investigator(s): SM, BL Section, Township, Range: S 28 T 17N R 15W

Landform (hillside, terrace, etc.): Shoulder Local relief (concave, convex, none): concave

Slope (%): 5 Lat: 39.84162 Long: -82.18770 Datum: WGS 84

Soil Map Unit Name: CkC2 - Cincinnati silt loam, 8 to 15 percent slopes, eroded 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Sampling point for w-bl-20200603-02 point in to PEM Wetland 036. Wetland is a small wet depression at edge of fallow field and grass field drive. Fully delineated. Potentially isolated.	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1.					
2.					
3.					
4.					
5.					
		=Total Cover			
Sapling/Shrub Stratum	(Plot size: <u>15'</u>)				
1.					
2.					
3.					
4.					
5.					
		=Total Cover			
Herb Stratum	(Plot size: <u>5'</u>)				
1.	<u>Carex stipata</u>	<u>30</u>	<u>Yes</u>	<u>OBL</u>	
2.	<u>Scirpus atrovirens</u>	<u>30</u>	<u>Yes</u>	<u>OBL</u>	
3.	<u>Poa compressa</u>	<u>20</u>	<u>No</u>	<u>FACU</u>	
4.	<u>Elymus virginicus</u>	<u>10</u>	<u>No</u>	<u>FACW</u>	
5.	<u>Agrostis gigantea</u>	<u>10</u>	<u>No</u>	<u>FACW</u>	
6.	<u>Lolium perenne</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
7.	<u>Solidago gigantea</u>	<u>3</u>	<u>No</u>	<u>FACW</u>	
8.	<u>Trifolium repens</u>	<u>3</u>	<u>No</u>	<u>FACU</u>	
9.	<u>Lamium purpureum</u>	<u>3</u>	<u>No</u>	<u>UPL</u>	
10.					
		<u>114</u> =Total Cover			
Woody Vine Stratum	(Plot size: <u>30'</u>)				
1.					
2.					
		=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 <u>60</u>	x 1 = <u>60</u>
FACW species <u>23</u>	x 2 = <u>46</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>28</u>	x 4 = <u>112</u>
UPL species <u>3</u>	x 5 = <u>15</u>
Column Totals: <u>114</u> (A)	<u>233</u> (B)
Prevalence Index = B/A = <u>2.04</u>	

Hydrophytic Vegetation Indicators:
 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)
 Hydrophytic vegetation indicator present as dominance test > 50%, dominant species are OBL.

SOIL

Sampling Point: bl-20200603-

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 4/2	95	10YR 4/4	5	C	PL	Loamy/Clayey	sandy to silty clay loam
4-11	10YR 4/1	90	10YR 4/6	10	C	PL	Loamy/Clayey	sandy clay loam
11-16	10YR 5/6	70	10YR 5/2	30	D	M	Loamy/Clayey	sandy clay loam

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

Hydric Soil Indicators: <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) <input checked="" type="checkbox"/> Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> ? Coast Prairie Redox (A16) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Red Parent Material (F21) <input type="checkbox"/> Very Shallow Dark Surface (F22) <input type="checkbox"/> Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:
 This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils in the United States, Version 8.2, 2018. (https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf)
 Hydric soil indicators present as low chroma/high value matrix with required distinct redox concentrations in pore linings, in closed depression subject to ponding.

HYDROLOGY

Wetland Hydrology Indicators:	
<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Gauge or Well Data (D9) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Other (Explain in Remarks)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u> 4 </u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> </u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u> 4 </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

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

Remarks:
 Multiple primary and secondary hydrology indicators present. Primary source of hydrology is concentration of precipitation and surface runoff. No defined outflow, no defined downstream connection to any jurisdictional feature, potentially isolated.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project City/County: Perry County Sampling Date: 06/03/2020
 Applicant/Owner: AEP State: OH Sampling Point: upl-bl-20200603-02
 Investigator(s): SM, BL Section, Township, Range: S 28 T 17N R 15W

Landform (hillside, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 15 Lat: 39.84166 Long: -82.18765 Datum: WGS 84

Soil Map Unit Name: GwC - Guernsey-Westmoreland silt loams, 8 to 15 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 <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	
Remarks: Sampling point (Upland 035) out for Wetland 036, about 10' north of wetland boundary. Not a wetland point as no wetland criteria met	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u> </u>		<u>0</u>		
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
		=Total Cover		
Sapling/Shrub Stratum	(Plot size: <u>15'</u>)			
1. <u> </u>		<u>0</u>		
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
		=Total Cover		
Herb Stratum	(Plot size: <u>5'</u>)			
1. <u>Trifolium repens</u>		<u>40</u>	<u>Yes</u>	<u>FACU</u>
2. <u>Dactylis glomerata</u>		<u>15</u>	<u>Yes</u>	<u>FACU</u>
3. <u>Schedonorus arundinaceus</u>		<u>10</u>	<u>No</u>	<u>FACU</u>
4. <u>Carex vulpinoidea</u>		<u>10</u>	<u>No</u>	<u>FACW</u>
5. <u>Scirpus atrovirens</u>		<u>10</u>	<u>No</u>	<u>OBL</u>
6. <u>Juncus tenuis</u>		<u>10</u>	<u>No</u>	<u>FAC</u>
7. <u>Daucus carota</u>		<u>5</u>	<u>No</u>	<u>UPL</u>
8. <u>Poa pratensis</u>		<u>5</u>	<u>No</u>	<u>FAC</u>
9. <u>Achillea millefolium</u>		<u>3</u>	<u>No</u>	<u>FACU</u>
10. <u> </u>				
		<u>108</u> =Total Cover		
Woody Vine Stratum	(Plot size: <u>30'</u>)			
1. <u> </u>		<u>0</u>		
2. <u> </u>				
		=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 <u>10</u>	x 1 = <u>10</u>
FACW species <u>10</u>	x 2 = <u>20</u>
FAC species <u>15</u>	x 3 = <u>45</u>
FACU species <u>68</u>	x 4 = <u>272</u>
UPL species <u>5</u>	x 5 = <u>25</u>
Column Totals: <u>108</u> (A)	<u>372</u> (B)
Prevalence Index = B/A = <u>3.44</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0¹

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

 Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No X

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

No hydrophytic vegetation indicators present, dominant species are FACU

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 4/3	80	10YR 5/4	20	C	PL	Loamy/Clayey	sandy to silty clay loam
4-15	10YR 5/4	100					Loamy/Clayey	sandy clay loam

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

Hydric Soil Indicators: <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
---	--

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

Hydric Soil Present? Yes _____ No X

Indicators for Problematic Hydric Soils³:
☐ Coast Prairie Redox (A16)
☐ Iron-Manganese Masses (F12)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (F22)
☐ Other (Explain in Remarks)

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

Remarks:
 This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils in the United States, Version 8.2, 2018. (https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf)
 No hydric soil indicators present

HYDROLOGY

Wetland Hydrology Indicators:			
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)		

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): <u>0</u> Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	---

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

Remarks:
 No hydrology indicators present

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Date: June 3, 2020
Wetland: w-bl-20200603-02	Rater: BL, SM

0	0
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input checked="" type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

5	5
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)2a. Calculate average buffer width (select one, do not double check)

<input type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input checked="" type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input checked="" type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input checked="" type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

15	10
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input checked="" type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input type="checkbox"/>	Between stream/lake and other human use (1)
<input checked="" type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input checked="" type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

<input type="checkbox"/>	(select one or double check & average)
<input type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input type="checkbox"/>	Regularly inundated/saturated (3)
<input type="checkbox"/>	Seasonally inundated (2)
<input checked="" type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.(select one or double check & average)

<input type="checkbox"/>	None or none apparent (12)
<input type="checkbox"/>	Recovered (7)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed

<input type="checkbox"/>	ditch	<input type="checkbox"/>	point source (nonstormwater)
<input type="checkbox"/>	dike	<input checked="" type="checkbox"/>	filling/grading
<input type="checkbox"/>	tile	<input type="checkbox"/>	road bed/RR track
<input type="checkbox"/>	weir	<input type="checkbox"/>	dredging
<input type="checkbox"/>	stormwater input	<input type="checkbox"/>	other - list

22	7
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)4a. Substrate disturbance. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (4)
<input checked="" type="checkbox"/>	Recovered (3)
<input type="checkbox"/>	Recovering (2)
<input type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (9)
<input type="checkbox"/>	Recovered (6)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input type="checkbox"/>	Good (5)
<input type="checkbox"/>	Moderately good (4)
<input type="checkbox"/>	Fair (3)
<input type="checkbox"/>	Poor to fair (2)
<input checked="" type="checkbox"/>	Poor (1)

Check all disturbances observed

<input checked="" type="checkbox"/>	mowing	<input type="checkbox"/>	shrub/sapling removal
<input type="checkbox"/>	grazing	<input type="checkbox"/>	herbaceous/aquatic bed removal
<input type="checkbox"/>	clearcutting	<input type="checkbox"/>	sedimentation
<input type="checkbox"/>	selective cutting	<input type="checkbox"/>	dredging
<input type="checkbox"/>	woody debris removal	<input type="checkbox"/>	farming
<input type="checkbox"/>	toxic pollutants	<input type="checkbox"/>	nutrient enrichment

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild	Date: June 3, 2020
Wetland: w-bl-20200603-02	Rater: BL, SM

22 subtotal first page

22 0

Subtotal Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

<input type="checkbox"/>	Bog (10 pts)
<input type="checkbox"/>	Fen (10 pts)
<input type="checkbox"/>	Old Growth Forest (10 pts)
<input type="checkbox"/>	Mature forested wetland (5 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
<input type="checkbox"/>	Lake Plain Sand Prairies (Oak Openings) (10 pts)
<input type="checkbox"/>	Relict Wet Prairies (10 pts)
<input type="checkbox"/>	Known occurrence state/federal threatened or endangered species (10)
<input type="checkbox"/>	Significant migratory songbird/waterfowl habitat or usage (10 pts)
<input type="checkbox"/>	Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

26 4

Subtotal Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

<input type="checkbox"/>	0	Aquatic bed
<input type="checkbox"/>	1	Emergent
<input type="checkbox"/>	0	Shrub
<input type="checkbox"/>	0	Forest
<input type="checkbox"/>	0	Mudflats
<input type="checkbox"/>	0	Open water
<input type="checkbox"/>		Other (list)

6b. Horizontal (plan view) interspersions

Select only one

<input type="checkbox"/>	High (5)
<input type="checkbox"/>	Moderately high (4)
<input type="checkbox"/>	Moderate (3)
<input type="checkbox"/>	Moderately low (2)
<input type="checkbox"/>	Low (1)
<input checked="" type="checkbox"/>	x None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

<input type="checkbox"/>	Extensive >75 % cover (-5)
<input type="checkbox"/>	Moderate 25-75% cover (-3)
<input type="checkbox"/>	Sparse 5-25% cover (-1)
<input type="checkbox"/>	Nearly Absent <5% cover (0)
<input checked="" type="checkbox"/>	x Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

<input type="checkbox"/>	1	Vegetated hummocks/tussocks
<input type="checkbox"/>	0	Coarse woody debris >15 cm (6")
<input type="checkbox"/>	0	Standing dead > 25 cm (10") dbh
<input type="checkbox"/>	1	Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

26 GRAND TOTAL (max 100 pts)

Provisional Wetland Category:

Category 1

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 036	
Date: June 3, 2020	
Description: PEM wetland Category 1 Facing North	

Wetland 036	
Date: June 3, 2020	
Description: PEM wetland Category 1 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 036	
Date: June 3, 2020	
Description: PEM wetland Category 1 Facing South	

Wetland 036	
Date: June 3, 2020	
Description: PEM wetland Category 1 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 036	
Date: June 3, 2020	
Description: PEM wetland Category 1 Soil Pit	

Wetland 037

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project City/County: Perry County Sampling Date: 06/03/2020
 Applicant/Owner: AEP State: OH Sampling Point: w-bl-20200603-03a
 Investigator(s): SM, BL Section, Township, Range: S 28 T 17N R 15W

Landform (hillside, terrace, etc.): Terrace Local relief (concave, convex, none): concave

Slope (%): 0 Lat: 39.84305 Long: -82.18913 Datum: WGS 84

Soil Map Unit Name: GwD - Guernsey-Westmoreland silt loams, 15 to 25 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	
Remarks: Sampling point in (w-bl-20200603-03a) for PEM Wetland 037, on the RDB of intermittent stream 041 within powerline ROW. Past disturbances are present but not significant.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
1. <u>Alnus glutinosa</u>	<u>2</u>	<u>No</u>	<u>FACW</u>																	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
<u>2</u> = Total Cover																				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>40</u></td> <td>x 1 = <u>40</u></td> </tr> <tr> <td>FACW species <u>72</u></td> <td>x 2 = <u>144</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>122</u> (A)</td> <td><u>224</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>1.84</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>40</u>	x 1 = <u>40</u>	FACW species <u>72</u>	x 2 = <u>144</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>122</u> (A)	<u>224</u> (B)	Prevalence Index = B/A = <u>1.84</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>40</u>	x 1 = <u>40</u>																			
FACW species <u>72</u>	x 2 = <u>144</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>10</u>	x 4 = <u>40</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>122</u> (A)	<u>224</u> (B)																			
Prevalence Index = B/A = <u>1.84</u>																				
1. <u>Salix nigra</u>	<u>10</u>	<u>Yes</u>	<u>OBL</u>																	
2. <u>Salix interior</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
<u>15</u> = Total Cover																				
Herb Stratum (Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Phalaris arundinacea</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Impatiens pallida</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Agrostis gigantea</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>																	
4. <u>Typha latifolia</u>	<u>10</u>	<u>No</u>	<u>OBL</u>																	
5. <u>Poa compressa</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
6. <u>Carex crinita</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																	
7. <u>Valerianella umbilicata</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
8. <u>Carex lurida</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																	
9. <u>Scirpus cyperinus</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																	
10. <u>Alisma subcordatum</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																	
<u>105</u> = Total Cover																				
Woody Vine Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>																
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>																	
<u> </u> = Total Cover																				
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetatin indicator present as rapid test, dominant species are OBL and FACW.																				

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4/2	90	10YR 4/6	10	C	PL	Loamy/Clayey	sandy loam
6-16	10YR 4/1	80	10YR 4/6	5	C	PL	Loamy/Clayey	sandy clay loam
			10YR 5/4	15	C	M		

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Redox Depressions (F8)
	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 <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:
 This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils in the United States, Version 8.2, 2018. (https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf)
 Hydric soil indicator present as low chroma/high value matrix with required prominent redox concentrations in pore linings.

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)		
<input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)		

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>8</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

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

Remarks:
 Multiple primary and secondary hydrology indicators present. Primary sources of hydrology are overbank flow from intermittent stream and concentration of precipitation and surface runoff in geomorphic position. Wetland abuts intermittent Stream 041 that flows north to intermittent Stream 042 that flows west to Turkey Run that flows north to Jonathan Creek that flows west to Muskingum River, a TNW.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project City/County: Perry County Sampling Date: 06/03/2020
 Applicant/Owner: AEP State: OH Sampling Point: upl-bl-20200603-03ab
 Investigator(s): SM, BL Section, Township, Range: S 28 T 17N R 15W

Landform (hillside, terrace, etc.): Terrace Local relief (concave, convex, none): flat

Slope (%): 2 Lat: 39.84332 Long: -82.18925 Datum: WGS 84

Soil Map Unit Name: GwD Guernsey-Westmoreland silt loams, 15 to 25 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 <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	
Remarks: Sampling point out(Upland 036) forWetland 038, about 10' west of wetland boundary. Recent tree clearing activity evident. Not a wetland point, no wetland criteria met	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)																
1. <u> </u>																					
2. <u> </u>																					
3. <u> </u>																					
4. <u> </u>																					
5. <u> </u>																					
		=Total Cover			Prevalence Index worksheet: <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>30</u></td> <td>x 2 = <u>60</u></td> </tr> <tr> <td>FAC species <u>63</u></td> <td>x 3 = <u>189</u></td> </tr> <tr> <td>FACU species <u>25</u></td> <td>x 4 = <u>100</u></td> </tr> <tr> <td>UPL species <u>12</u></td> <td>x 5 = <u>60</u></td> </tr> <tr> <td>Column Totals: <u>130</u> (A)</td> <td><u>409</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.15</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>30</u>	x 2 = <u>60</u>	FAC species <u>63</u>	x 3 = <u>189</u>	FACU species <u>25</u>	x 4 = <u>100</u>	UPL species <u>12</u>	x 5 = <u>60</u>	Column Totals: <u>130</u> (A)	<u>409</u> (B)	Prevalence Index = B/A = <u>3.15</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>0</u>	x 1 = <u>0</u>																				
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FAC species <u>63</u>	x 3 = <u>189</u>																				
FACU species <u>25</u>	x 4 = <u>100</u>																				
UPL species <u>12</u>	x 5 = <u>60</u>																				
Column Totals: <u>130</u> (A)	<u>409</u> (B)																				
Prevalence Index = B/A = <u>3.15</u>																					
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																					
1. <u>Rosa multiflora</u>		15	Yes	FACU																	
2. <u>Elaeagnus umbellata</u>		10	Yes	UPL																	
3. <u>Rubus allegheniensis</u>		10	Yes	FACU																	
4. <u>Smilax rotundifolia</u>		3	No	FAC																	
5. <u>Rhus typhina</u>		2	No	UPL																	
		40 =Total Cover			Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u> </u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
Herb Stratum (Plot size: <u>5'</u>)																					
1. <u>Agrimonia parviflora</u>		30	Yes	FACW																	
2. <u>Poa pratensis</u>		20	Yes	FAC																	
3. <u>Potentilla norvegica</u>		15	Yes	FAC																	
4. <u>Carex blanda</u>		10	No	FAC																	
5. <u>Symphyotrichum prenanthoides</u>		10	No	FAC																	
6. <u>Carex amphibola</u>		5	No	FAC																	
7. <u> </u>		5	No																		
8. <u> </u>		5	No																		
9. <u> </u>		3	No																		
10. <u> </u>																					
		103 =Total Cover			Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																
Woody Vine Stratum (Plot size: <u>30'</u>)																					
1. <u> </u>																					
2. <u> </u>																					
		=Total Cover																			

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

No hydrophytic vegetation indicators present, dominance test > 50%, dominant species are FACW, FAC, FACU and UPL, prevalence index > 3.0

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	10YR 4/3	100					Loamy/Clayey	sandy loam
7-14	10YR 5/4	100					Loamy/Clayey	sandy clay loam

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

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Dark Surface (S7) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | <input type="checkbox"/> Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- ☐ Coast Prairie Redox (A16)
☐ Iron-Manganese Masses (F12)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (F22)
☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils in the United States, Version 8.2, 2018. (https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf)

No hydric soil indicators present

HYDROLOGY**Wetland Hydrology Indicators:**Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): 0
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No hydrology indicators present

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Date: June 3, 2020
Wetland: w-bl-20200603-03a	Rater: BL, SM

0	0
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input checked="" type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

12	12
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

<input checked="" type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input checked="" type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

24	12
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input checked="" type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input type="checkbox"/>	Between stream/lake and other human use (1)
<input checked="" type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input checked="" type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input checked="" type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

<u>(select one or double check & average)</u>	
<input type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input type="checkbox"/>	Regularly inundated/saturated (3)
<input checked="" type="checkbox"/>	Seasonally inundated (2)
<input type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

<input type="checkbox"/>	None or none apparent (12)
<input type="checkbox"/>	Recovered (7)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> tile	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other - list

33	9
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (4)
<input checked="" type="checkbox"/>	Recovered (3)
<input type="checkbox"/>	Recovering (2)
<input type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (9)
<input type="checkbox"/>	Recovered (6)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input type="checkbox"/>	Good (5)
<input type="checkbox"/>	Moderately good (4)
<input checked="" type="checkbox"/>	Fair (3)
<input type="checkbox"/>	Poor to fair (2)
<input type="checkbox"/>	Poor (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild	Date: June 3, 2020
Wetland: w-bl-20200603-03a	Rater: BL, SM

33 subtotal first page

33 0

Subtotal Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- ☐ Bog (10 pts)
- ☐ Fen (10 pts)
- ☐ Old Growth Forest (10 pts)
- ☐ Mature forested wetland (5 pts)
- ☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- ☐ Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- ☐ Lake Plain Sand Prairies (Oak Openings) (10 pts)
- ☐ Relict Wet Prairies (10 pts)
- ☐ Known occurrence state/federal threatened or endangered species (10)
- ☐ Significant migratory songbird/waterfowl habitat or usage (10 pts)
- ☐ Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

34 1

Subtotal Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- ☐ Aquatic bed
- 1 ☐ Emergent
- 0 ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other (list)

6b. Horizontal (plan view) interspersions

Select only one

- ☐ High (5)
- ☐ Moderately high (4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- x ☐ Low (1)
- ☐ None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

- ☐ Extensive >75 % cover (-5)
- X ☐ Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☐ Nearly Absent <5% cover (0)
- ☐ Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

- 0 ☐ Vegetated hummocks/tussocks
- 0 ☐ Coarse woody debris >15 cm (6")
- 0 ☐ Standing dead > 25 cm (10") dbh
- 2 ☐ Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

34 GRAND TOTAL (max 100 pts)

Provisional Wetland Category:

Modified Category 2

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
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Wetland 037	
Date: June 3, 2020	
Description: PSS wetland Category 2 Facing North	

Wetland 037	
Date: June 3, 2020	
Description: PSS wetland Category 2 Facing East	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
----------------------------	---	--------------------------------

Wetland 037	
Date: June 3, 2020	
Description: PSS wetland Category 2 Facing South	

Wetland 037	
Date: June 3, 2020	
Description: PSS wetland Category 2 Facing West	

Client Name: AEP	Site Location: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Project No. 60616110
----------------------------	---	--------------------------------

Wetland 037	
Date: June 3, 2020	
Description: PSS wetland Category 2 Soil Pit	

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project City/County: Perry County Sampling Date: 06/03/2020
 Applicant/Owner: AEP State: OH Sampling Point: w-bl-20200603-03b
 Investigator(s): SM, BL Section, Township, Range: S 28 T 17N R 15W

Landform (hillside, terrace, etc.): Terrace Local relief (concave, convex, none): concave

Slope (%): 2 Lat: 39.84334 Long: -82.18924 Datum: WGS 84

Soil Map Unit Name: GwD - Guernsey-Westmoreland silt loams, 15 to 25 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 X, 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 <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	
Remarks: Sampling point in (w-bl-20200603-03b) to PSS Wetland 038, on/above both banks of intermittent Stream 041, downstream of Wetland 037. Naturally problematic soils due to deposition by active stream flow. Wetland extends to north outside study area.	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60.0%</u> (A/B)																
1. <u> </u>																					
2. <u> </u>																					
3. <u> </u>																					
4. <u> </u>																					
5. <u> </u>																					
=Total Cover																					
Sapling/Shrub Stratum	(Plot size: <u>15'</u>)				Prevalence Index worksheet: <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>10</u></td> <td>x 1 = <u>10</u></td> </tr> <tr> <td>FACW species <u>95</u></td> <td>x 2 = <u>190</u></td> </tr> <tr> <td>FAC species <u>5</u></td> <td>x 3 = <u>15</u></td> </tr> <tr> <td>FACU species <u>30</u></td> <td>x 4 = <u>120</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>145</u> (A)</td> <td><u>360</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.48</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>95</u>	x 2 = <u>190</u>	FAC species <u>5</u>	x 3 = <u>15</u>	FACU species <u>30</u>	x 4 = <u>120</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>145</u> (A)	<u>360</u> (B)	Prevalence Index = B/A = <u>2.48</u>	
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Column Totals: <u>145</u> (A)	<u>360</u> (B)																				
Prevalence Index = B/A = <u>2.48</u>																					
1. <u>Salix interior</u>		30	Yes	FACW																	
2. <u>Salix nigra</u>		10	Yes	OBL																	
3. <u>Rubus allegheniensis</u>		10	Yes	FACU																	
4. <u>Alnus glutinosa</u>		5	No	FACW																	
5. <u>Elaeagnus umbellata</u>		5	No	UPL																	
60 =Total Cover																					
Herb Stratum	(Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Phalaris arundinacea</u>		30	Yes	FACW																	
2. <u>Poa compressa</u>		20	Yes	FACU																	
3. <u>Packera aurea</u>		15	No	FACW																	
4. <u>Sambucus canadensis</u>		10	No	FAC																	
5. <u>Symphyotrichum prenanthoides</u>		5	No	FAC																	
6. <u>Valerianella umbilicata</u>		5	No	FACW																	
7. <u>Dichanthelium clandestinum</u>		5	No	FACW																	
8. <u>Impatiens capensis</u>		5	No	FACW																	
9. <u> </u>																					
10. <u> </u>																					
95 =Total Cover																					
Woody Vine Stratum	(Plot size: <u>30'</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>																
1. <u> </u>																					
2. <u> </u>																					
=Total Cover																					

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

Hydrophytic vegetation indicator present as dominance test > 50%, dominant species are OBL, FACW and FACU

SOIL

Sampling Point: JI-20200603-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 4/2	95	10YR 4/4	5	C	PL	Loamy/Clayey	silty to sandy clay loam
8-15	10YR 4/1	98	10YR 4/3	2	C	PL	Loamy/Clayey	silty to sandy clay loam
15-22	10YR 5/2	90	10YR 4/4	10	C	M	Loamy/Clayey	sandy clay loam

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

Hydric Soil Indicators: <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) <input type="checkbox"/> Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> ? Coast Prairie Redox (A16) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Red Parent Material (F21) <input type="checkbox"/> Very Shallow Dark Surface (F22) <input type="checkbox"/> Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:
 This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils in the United States, Version 8.2, 2018. (https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf)
 Hydric soil indicator present as low chroma/high value matrix with required prominent redox concentrations in pore linings.

HYDROLOGY

Wetland Hydrology Indicators:			
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input checked="" type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)		

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Multiple primary and secondary hydrology indicators present. Primary sources of hydrology are overbank flow from intermittent stream and concentration of precipitation and surface runoff in geomorphic position. Wetland abuts intermittent Stream 041 that flows north to intermittent Stream 042 that flows west to Turkey Run that flows north to Jonathan Creek that flows west to Muskingum River, a TNW.

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project	Date: June 3, 2020
Wetland: w-bl-20200603-03b	Rater: BL, SM

0	0
Subtotal	Points

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

<input type="checkbox"/>	>50 acres (>20.2ha) (6 pts)
<input type="checkbox"/>	25 to <50 acres (10.1 to <20.2ha) (5 pts)
<input type="checkbox"/>	10 to <25 acres (4 to <10.1ha) (4 pts)
<input type="checkbox"/>	3 to <10 acres (1.2 to <4ha) (3 pts)
<input type="checkbox"/>	0.3 to <3 acres (0.12 to <1.2ha) (2pts)
<input type="checkbox"/>	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
<input checked="" type="checkbox"/>	<0.1 acres (0.04ha) (0 pts)

12	12
Subtotal	Points

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

<input checked="" type="checkbox"/>	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
<input type="checkbox"/>	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
<input type="checkbox"/>	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
<input type="checkbox"/>	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use (select one or double check & average)

<input type="checkbox"/>	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
<input checked="" type="checkbox"/>	LOW. Old field (>10 years), shrubland, young second growth forest. (5)
<input type="checkbox"/>	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
<input type="checkbox"/>	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

24	12
Subtotal	Points

Metric 3. Hydrology. (max 30 pts)

3a. Sources of Water. Score all that apply.

<input type="checkbox"/>	High pH groundwater (5)
<input type="checkbox"/>	Other groundwater (3)
<input checked="" type="checkbox"/>	Precipitation (1)
<input checked="" type="checkbox"/>	Seasonal/Intermittent surface water (3)
<input type="checkbox"/>	Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

<input type="checkbox"/>	100 year floodplain (1)
<input type="checkbox"/>	Between stream/lake and other human use (1)
<input checked="" type="checkbox"/>	Part of wetland/upland (e.g. forest), complex (1)
<input checked="" type="checkbox"/>	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only 1.

<input type="checkbox"/>	>0.7 (27.6in) (3)
<input type="checkbox"/>	0.4 to 0.7m (15.7 to 27.6in) (2)
<input checked="" type="checkbox"/>	<0.4m (<15.7in) (1)

3d. Duration inundation/saturation.

<u>(select one or double check & average)</u>	
<input type="checkbox"/>	Semi- to permanently inundated/saturated (4)
<input type="checkbox"/>	Regularly inundated/saturated (3)
<input checked="" type="checkbox"/>	Seasonally inundated (2)
<input type="checkbox"/>	Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime.

(select one or double check & average)

<input type="checkbox"/>	None or none apparent (12)
<input type="checkbox"/>	Recovered (7)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

Check all disturbances observed

<input type="checkbox"/>	ditch	<input type="checkbox"/>	point source (nonstormwater)
<input type="checkbox"/>	dike	<input checked="" type="checkbox"/>	filling/grading
<input type="checkbox"/>	tile	<input type="checkbox"/>	road bed/RR track
<input type="checkbox"/>	weir	<input type="checkbox"/>	dredging
<input type="checkbox"/>	stormwater input	<input type="checkbox"/>	other - list

33	9
Subtotal	Points

Metric 4. Habitat Alteration and Development. (max 20 pts.)

4a. Substrate disturbance. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (4)
<input checked="" type="checkbox"/>	Recovered (3)
<input type="checkbox"/>	Recovering (2)
<input type="checkbox"/>	Recent or no recovery (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/>	None or none apparent (9)
<input type="checkbox"/>	Recovered (6)
<input checked="" type="checkbox"/>	Recovering (3)
<input type="checkbox"/>	Recent or no recovery (1)

4b. Habitat development. Select one.

<input type="checkbox"/>	Excellent (7)
<input type="checkbox"/>	Very good (6)
<input type="checkbox"/>	Good (5)
<input type="checkbox"/>	Moderately good (4)
<input checked="" type="checkbox"/>	Fair (3)
<input type="checkbox"/>	Poor to fair (2)
<input type="checkbox"/>	Poor (1)

Check all disturbances observed

<input type="checkbox"/>	mowing	<input type="checkbox"/>	shrub/sapling removal
<input type="checkbox"/>	grazing	<input type="checkbox"/>	herbaceous/aquatic bed removal
<input checked="" type="checkbox"/>	clearcutting	<input type="checkbox"/>	sedimentation
<input type="checkbox"/>	selective cutting	<input type="checkbox"/>	dredging
<input type="checkbox"/>	woody debris removal	<input type="checkbox"/>	farming
<input type="checkbox"/>	toxic pollutants	<input type="checkbox"/>	nutrient enrichment

Site: Crooksville-North Newark 138 kV Transmission Line Rebuild	Date: June 3, 2020
Wetland: w-bl-20200603-03b	Rater: BL, SM

33 subtotal first page

33	0
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Subtotal Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

<input type="checkbox"/>	Bog (10 pts)
<input type="checkbox"/>	Fen (10 pts)
<input type="checkbox"/>	Old Growth Forest (10 pts)
<input type="checkbox"/>	Mature forested wetland (5 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
<input type="checkbox"/>	Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
<input type="checkbox"/>	Lake Plain Sand Prairies (Oak Openings) (10 pts)
<input type="checkbox"/>	Relict Wet Prairies (10 pts)
<input type="checkbox"/>	Known occurrence state/federal threatened or endangered species (10)
<input type="checkbox"/>	Significant migratory songbird/waterfowl habitat or usage (10 pts)
<input type="checkbox"/>	Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

33	0
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Subtotal Points

Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

<input type="checkbox"/>	Aquatic bed
0	Emergent
1	Shrub
<input type="checkbox"/>	Forest
<input type="checkbox"/>	Mudflats
<input type="checkbox"/>	Open water
<input type="checkbox"/>	Other (list)

6b. Horizontal (plan view) interspersions

Select only one

<input type="checkbox"/>	High (5)
<input type="checkbox"/>	Moderately high (4)
<input type="checkbox"/>	Moderate (3)
<input type="checkbox"/>	Moderately low (2)
<input type="checkbox"/>	Low (1)
x	None (0)

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

<input type="checkbox"/>	Extensive >75 % cover (-5)
X	Moderate 25-75% cover (-3)
<input type="checkbox"/>	Sparse 5-25% cover (-1)
<input type="checkbox"/>	Nearly Absent <5% cover (0)
<input type="checkbox"/>	Absent (1)

6d. Microtopography

Score all present using 0 to 3 scale

0	Vegetated hummocks/tussocks
0	Coarse woody debris >15 cm (6")
0	Standing dead > 25 cm (10") dbh
2	Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres to 9.88 acres)
3	High 4 ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

33 GRAND TOTAL (max 100 pts)

Provisional Wetland Category:

Modified Category 2

**This foregoing document was electronically filed with the Public Utilities
Commission of Ohio Docketing Information System on**

12/2/2021 2:51:04 PM

in

Case No(s). 21-1206-EL-BLN

Summary: Notice Letter of Notification Part 6 electronically filed by Hector Garcia-Santana on behalf of AEP Ohio Transmission Company, Inc.