

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 074a</b>	
<b>Date:</b> June 10, 2020	
<b>Description:</b>  PFO wetland  Category 2  Soil Pit	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 074b</b>	
<b>Date:</b> June 10, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing North	

<b>Wetland 074b</b>	
<b>Date:</b> June 10, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 074b</b>	
<b>Date:</b> June 10, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing South	

<b>Wetland 074b</b>	
<b>Date:</b> June 10, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 074b</b>	
<b>Date:</b> June 10, 2020	
<b>Description:</b>  PEM wetland  Category 1  Soil Pit	



## Wetland 075

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/10/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-aeh-200610-03  
 Investigator(s): AEH, SKM Section, Township, Range: S9, T18N, R16W  
 Landform (hillside, terrace, etc.): Swale Local relief (concave, convex, none): none  
 Slope (%): 0 Lat: 39.944525 Long: -82.29038 Datum: NAD 83  
 Soil Map Unit Name: Negley loam, 6 to 12 percent slopes, eroded (NeC2) 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: Point in to Wetland 075 is located within a swale within the transmission line ROW. Wetland fully delineated, potentially isolated.	

### VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
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> )			
1. <u>    </u>				
2. <u>    </u>				
3. <u>    </u>				
4. <u>    </u>				
5. <u>    </u>				
=Total Cover				
Herb Stratum	(Plot size: <u>5'</u> )			
1. <u>Juncus effusus</u>		30	Yes	OBL
2. <u>Carex vulpinoidea</u>		25	Yes	FACW
3. <u>Carex annectens</u>		20	Yes	FACW
4. <u>Juncus tenuis</u>		15	No	FAC
5. <u>Agrostis gigantea</u>		10	No	FACW
6. <u>Scirpus atrovirens</u>		5	No	OBL
7. <u>Phalaris arundinacea</u>		5	No	FACW
8. <u>Solidago canadensis</u>		2	No	FACU
9. <u>    </u>				
10. <u>    </u>				
112 =Total Cover				
Woody Vine Stratum	(Plot size: <u>30'</u> )			
1. <u>    </u>				
2. <u>    </u>				
=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>60</u>	x 2 = <u>120</u>
FAC species <u>15</u>	x 3 = <u>45</u>
FACU species <u>2</u>	x 4 = <u>8</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>112</u> (A)	<u>208</u> (B)
Prevalence Index = B/A = <u>1.86</u>	

**Hydrophytic Vegetation Indicators:**

     1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0<sup>1</sup>

     4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

     Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators 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%.



## SOIL

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

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

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

Hydric soil indicator present as low chroma/high value depleted matrix.

Multiple primary and secondary hydrology indicators present. Wetland 075 will eventually overland flow to intermittent Stream 077 that flows east to Wise Run that flows south to Valley Run that flows south to Jonathan Creek that flows east to Muskingum River, a TNW.



# WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: <u>Crooksville-North Newark 138 kV Transmission Line</u>	City/County: <u>Licking County</u>	Sampling Date: <u>06/10/2020</u>
Applicant/Owner: <u>AEP</u>	State: <u>OH</u>	Sampling Point: <u>upl-aeh-200610-03</u>
Investigator(s): <u>AEH, SKM</u>	Section, Township, Range: <u>S9. T18N. R16W</u>	
Landform (hillside, terrace, etc.): <u>flat</u>	Local relief (concave, convex, none): <u>none</u>	
Slope (%): <u>0</u> Lat: <u>39.944314</u>	Long: <u>-82.29034</u>	Datum: <u>NAD 83</u>
Soil Map Unit Name: <u>Negley loam, 18 to 25 percent slopes (NeE)</u>		NWI classification: <u>N/A</u>

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 <u>      </u>	No <u>  X  </u>	<b>Is the Sampled Area within a Wetland?</b>	<b>Yes <u>      </u></b>	<b>No <u>  X  </u></b>
Hydric Soil Present?	Yes <u>      </u>	No <u>  X  </u>			
Wetland Hydrology Present?	Yes <u>      </u>	No <u>  X  </u>			
Remarks: Upland 079 is point out, located south of Wetland 075. Not a wetland point as no wetland criteria met.					

**VEGETATION** – Use scientific names of plants.

Tree Stratum	(Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
5.				
			=Total Cover	
Sapling/Shrub Stratum	(Plot size: 15')			
1.				
2.				
3.				
4.				
5.				
			=Total Cover	
Herb Stratum	(Plot size: 5')			
1.	<i>Dactylis glomerata</i>	30	Yes	FACU
2.	<i>Schedonorus arundinaceus</i>	30	Yes	FACU
3.	<i>Arrhenatherum elatius</i>	25	Yes	FACU
4.	<i>Trifolium pratense</i>	15	No	FACU
5.	<i>Galium aparine</i>	5	No	FACU
6.				
7.				
8.				
9.				
10.				
		105	=Total Cover	
Woody Vine Stratum	(Plot size: 30')			
1.				
2.				
			=Total Cover	

**Dominance Test worksheet:**

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 0	x 2 = 0
FAC species 0	x 3 = 0
FACU species 105	x 4 = 420
UPL species 0	x 5 = 0
Column Totals: 105 (A)	420 (B)
Prevalence Index = B/A = 4.00	

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators 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.



[illegible]

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

☐ Coast Prairie Redox (A16)  
☐ Iron-Manganese Masses (F12)  
☐ Red Parent Material (F21)  
☐ Very Shallow Dark Surface (F22)  
☐ Other (Explain in Remarks)

Hydric Soil Present? Yes \_\_\_\_\_ No X

No hydric soil indicators present. Shovel refusal at 4" depth due to rocks.

- ☐ 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)

Wetland Hydrology Present?    Yes                      No    X

No hydrology indicators present.

<b>Site:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Date:</b> June 10, 2020
<b>Wetland:</b> w-aeh-20200610-03	<b>Rater:</b> AH, 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)

7	7
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 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)

23	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 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.

<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

32	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

<b>Site:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild	<b>Date:</b> June 10, 2020
<b>Wetland:</b> w-aeH-20200610-03	<b>Rater:</b> AH, SM

32 subtotal first page

32 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)

34 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
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)
x	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

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


34 GRAND TOTAL (max 100 pts)

Provisional Wetland Category:

Modified Category 2



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 075</b>	
<b>Date:</b> June 10, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing North	

<b>Wetland 075</b>	
<b>Date:</b> June 10, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 075</b>	
<b>Date:</b> June 10, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing South	

<b>Wetland 075</b>	
<b>Date:</b> June 10, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 075</b>	
<b>Date:</b> June 10, 2020	
<b>Description:</b>  PEM wetland  Category 2  Soil Pit	



## Wetland 076

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/10/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-aeh-200610-02  
 Investigator(s): AEH, SKM Section, Township, Range: S21. T1N. R11W

Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): none

Slope (%): 0 Lat: 39.96786 Long: -82.306911 Datum: NAD 83

Soil Map Unit Name: Homewood silt loam, 18 to 25 percent slopes, eroded (HoE2) 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: Point in to Wetland 076 is located within a swale on a hillslope, draining northeast to Wise Run. Wetland fully delineated.	

### VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
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> )			
1. <u>    </u>				
2. <u>    </u>				
3. <u>    </u>				
4. <u>    </u>				
5. <u>    </u>				
		=Total Cover		
Herb Stratum	(Plot size: <u>5'</u> )			
1. <u>Carex lurida</u>		35	Yes	OBL
2. <u>Juncus effusus</u>		30	Yes	OBL
3. <u>Onoclea sensibilis</u>		25	Yes	FACW
4. <u>Dichanthelium clandestinum</u>		20	No	FACW
5. <u>Poa pratensis</u>		15	No	FAC
6. <u>Juncus tenuis</u>		10	No	FAC
7. <u>Asclepias syriaca</u>		5	No	FACU
8. <u>Scirpus atrovirens</u>		5	No	OBL
9. <u>Carex molesta</u>		3	No	FAC
10. <u>    </u>				
		148 =Total Cover		
Woody Vine Stratum	(Plot size: <u>30'</u> )			
1. <u>    </u>				
2. <u>    </u>				
		=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>70</u>	x 1 = <u>70</u>
FACW species <u>45</u>	x 2 = <u>90</u>
FAC species <u>28</u>	x 3 = <u>84</u>
FACU species <u>5</u>	x 4 = <u>20</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>148</u> (A)	<u>264</u> (B)
Prevalence Index = B/A = <u>1.78</u>	

**Hydrophytic Vegetation Indicators:**

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0<sup>1</sup>

     4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

     Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators 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 indicators present as rapid test.

[illegible]

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 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 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)		
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Multiple hydrology indicators present. Wetland 076 drains through overland flow to intermittent Stream 082 (Wise Run) that flows south to Valley Run that flows south to Jonathan Creek that flows east to Muskingum River, a TNW.			

## Upland 080

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/10/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-aeh-200610-02  
 Investigator(s): AEH, SKM Section, Township, Range: S21. T1N. R11W  
 Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none  
 Slope (%): 2 Lat: 39.967849 Long: -82.3070047 Datum: NAD 83  
 Soil Map Unit Name: Coshocton silt loam, 12 to 18 percent slopes (CoD2) 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: Upland 080 is point out to Wetland 076 located northwest of wetland. 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	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</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>50.0%</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> )				<b>Prevalence Index worksheet:</b> <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>36</u></td> <td>x 2 = <u>72</u></td> </tr> <tr> <td>FAC species <u>23</u></td> <td>x 3 = <u>69</u></td> </tr> <tr> <td>FACU species <u>50</u></td> <td>x 4 = <u>200</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>109</u> (A)</td> <td><u>341</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.13</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>36</u>	x 2 = <u>72</u>	FAC species <u>23</u>	x 3 = <u>69</u>	FACU species <u>50</u>	x 4 = <u>200</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>109</u> (A)	<u>341</u> (B)	Prevalence Index = B/A = <u>3.13</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>0</u>	x 1 = <u>0</u>																				
FACW species <u>36</u>	x 2 = <u>72</u>																				
FAC species <u>23</u>	x 3 = <u>69</u>																				
FACU species <u>50</u>	x 4 = <u>200</u>																				
UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>109</u> (A)	<u>341</u> (B)																				
Prevalence Index = B/A = <u>3.13</u>																					
1. <u>    </u>																					
2. <u>    </u>																					
3. <u>    </u>																					
4. <u>    </u>																					
5. <u>    </u>																					
		=Total Cover																			
Herb Stratum	(Plot size: <u>5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Arrhenatherum elatius</u>		<u>35</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Dichanthelium clandestinum</u>		<u>30</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Toxicodendron radicans</u>		<u>10</u>	<u>No</u>	<u>FAC</u>																	
4. <u>Juncus tenuis</u>		<u>10</u>	<u>No</u>	<u>FAC</u>																	
5. <u>Rosa multiflora</u>		<u>10</u>	<u>No</u>	<u>FACU</u>																	
6. <u>Lonicera morrowii</u>		<u>5</u>	<u>No</u>	<u>FACU</u>																	
7. <u>Impatiens capensis</u>		<u>3</u>	<u>No</u>	<u>FACW</u>																	
8. <u>Acer rubrum</u>		<u>3</u>	<u>No</u>	<u>FAC</u>																	
9. <u>Carex annectens</u>		<u>3</u>	<u>No</u>	<u>FACW</u>																	
		<u>109</u> =Total Cover																			
Woody Vine Stratum	(Plot size: <u>30'</u> )				<b>Hydrophytic Vegetation Present? Yes <u>    </u> No <u>X</u></b>																
1. <u>    </u>																					
2. <u>    </u>																					
		=Total Cover																			
Remarks: (Include photo numbers here or on a separate sheet.) No hydrophytic vegetation indicators present.																					



## SOIL

Sampling Point: l-aeh-200610

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 <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 5/3	100					Loamy/Clayey	
4-8	10YR 5/4	100					Loamy/Clayey	

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

<b>Hydric Soil Indicators:</b> <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: \_\_\_\_\_ rocks/gravel  
 Depth (inches): \_\_\_\_\_ 8

**Hydric Soil Present?**      Yes \_\_\_\_\_ No X

**Indicators for Problematic Hydric Soils<sup>3</sup>:**  
☐ Coast Prairie Redox (A16)  
☐ Iron-Manganese Masses (F12)  
☐ Red Parent Material (F21)  
☐ Very Shallow Dark Surface (F22)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators 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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 No hydric soil indicators present.

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>			
<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)		

<b>Field Observations:</b> Surface Water Present?    Yes _____ No <u>x</u> Depth (inches): _____ Water Table Present?      Yes _____ No <u>x</u> Depth (inches): _____ Saturation Present?        Yes _____ No <u>x</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 No hydrology indicators present.

<b>Site:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Date:</b> June 10, 2020
<b>Wetland:</b> w-aeh-20200610-02	<b>Rater:</b> AH, 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)

9	9
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)

21	12
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

29	8
Subtotal	Points

**Metric 4. Habitat Alteration and Development. (max 20 pts.)**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

29	subtotal this page
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<b>Site:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild	<b>Date:</b> June 10, 2020
<b>Wetland:</b> w-aeh-20200610-02	<b>Rater:</b> AH, 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)

33	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
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)
<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 type="checkbox"/>	Nearly Absent <5% cover (0)
<input checked="" 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

33 **GRAND TOTAL (max 100 pts)**

Provisional Wetland Category:

Modified Category 2



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 076</b>	
<b>Date:</b> June 10, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing North	

<b>Wetland 076</b>	
<b>Date:</b> June 10, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 076</b>	
<b>Date:</b> June 10, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing South	

<b>Wetland 076</b>	
<b>Date:</b> June 10, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 076</b>	
<b>Date:</b> June 10, 2020	
<b>Description:</b>  PEM wetland  Category 2  Soil Pit	

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/10/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-aeh-200610-01  
 Investigator(s): AEH, SKM Section, Township, Range: S20. T1N. R11W

Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): none

Slope (%): 0 Lat: 39.97089 Long: -82.30878 Datum: NAD 83

Soil Map Unit Name: Homewood silt loam, 12 to 18 percent slopes, eroded (HoD2) 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>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Point in to PEM Wetland 077 is a depressional area located at the start of ephemeral Stream 083. Wetland fully delineated.	

### 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>Impatiens capensis</u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>	
2.	<u>Onoclea sensibilis</u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>	
3.	<u>Juncus effusus</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>	
4.	<u>Poa pratensis</u>	<u>15</u>	<u>No</u>	<u>FAC</u>	
5.	<u>Agrostis gigantea</u>	<u>15</u>	<u>No</u>	<u>FACW</u>	
6.	<u>Carex lurida</u>	<u>10</u>	<u>No</u>	<u>OBL</u>	
7.	<u>Scirpus atrovirens</u>	<u>5</u>	<u>No</u>	<u>OBL</u>	
8.					
9.					
10.					
		<u>115</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: 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>65</u>	x 2 = <u>130</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>210</u> (B)
Prevalence Index = B/A = <u>1.83</u>	

**Hydrophytic Vegetation Indicators:**  
     1 - Rapid Test for Hydrophytic Vegetation  
X 2 - Dominance Test is >50%  
X 3 - Prevalence Index is ≤3.0<sup>1</sup>  
     4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
     Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators 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%.



## 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 <sup>1</sup>	Loc <sup>2</sup>		
0-10	10YR 5/1	85	10YR 5/6	15	C	PL	Loamy/Clayey	Prominent redox concentrations
10-18	10YR 6/1	85	10YR 5/6	15	C	PL	Loamy/Clayey	Prominent redox concentrations

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<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)
<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 Hydric soil indicator present as low chroma/high value depleted matrix.

## 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 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 type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)		

<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?      Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches):    12 Saturation Present?        Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches):      8 (includes capillary fringe)	<b>Wetland Hydrology Present?</b> 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. the wetland abuts ephemeral Stream 083, which drains south to Wise Run that flows south to Valley Run that flows south to Jonathan Creek that flows east to Muskingum River, a TNW.

## Upland 081

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/10/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-aeh-200610-01  
 Investigator(s): AEH, SKM Section, Township, Range: S20. T1N. R11W

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none

Slope (%): 2 Lat: 39.970918 Long: -82.308709 Datum: NAD 83

Soil Map Unit Name: Homewood silt loam, 12 to 18 percent slopes, eroded (HoD2) 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: Upland 081 is point out, located north of Wetland 077. 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	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</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> )				<b>Prevalence Index worksheet:</b> <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>95</u></td> <td>x 4 = <u>380</u></td> </tr> <tr> <td>UPL species <u>10</u></td> <td>x 5 = <u>50</u></td> </tr> <tr> <td>Column Totals: <u>115</u> (A)</td> <td><u>460</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>4.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>95</u>	x 4 = <u>380</u>	UPL species <u>10</u>	x 5 = <u>50</u>	Column Totals: <u>115</u> (A)	<u>460</u> (B)	Prevalence Index = B/A = <u>4.00</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>0</u>	x 1 = <u>0</u>																				
FACW species <u>0</u>	x 2 = <u>0</u>																				
FAC species <u>10</u>	x 3 = <u>30</u>																				
FACU species <u>95</u>	x 4 = <u>380</u>																				
UPL species <u>10</u>	x 5 = <u>50</u>																				
Column Totals: <u>115</u> (A)	<u>460</u> (B)																				
Prevalence Index = B/A = <u>4.00</u>																					
1. <u>    </u>																					
2. <u>    </u>																					
3. <u>    </u>																					
4. <u>    </u>																					
5. <u>    </u>																					
		=Total Cover																			
Herb Stratum	(Plot size: <u>5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Arrhenatherum elatius</u>		<u>25</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Dactylis glomerata</u>		<u>20</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Parthenocissus quinquefolia</u>		<u>20</u>	<u>Yes</u>	<u>FACU</u>																	
4. <u>Toxicodendron radicans</u>		<u>10</u>	<u>No</u>	<u>FAC</u>																	
5. <u>Rosa multiflora</u>		<u>10</u>	<u>No</u>	<u>FACU</u>																	
6. <u>Asclepias syriaca</u>		<u>10</u>	<u>No</u>	<u>FACU</u>																	
7. <u>Securigera varia</u>		<u>10</u>	<u>No</u>	<u>UPL</u>																	
8. <u>Solidago canadensis</u>		<u>5</u>	<u>No</u>	<u>FACU</u>																	
9. <u>Cirsium arvense</u>		<u>5</u>	<u>No</u>	<u>FACU</u>																	
		<u>115</u> =Total Cover																			
Woody Vine Stratum	(Plot size: <u>30'</u> )				<b>Hydrophytic Vegetation</b> Present? Yes <u>    </u> No <u>X</u>																
1. <u>    </u>																					
2. <u>    </u>																					
		=Total Cover																			
Remarks: (Include photo numbers here or on a separate sheet.) No hydrophytic vegetation indicators present.																					

HYDROLOGY			
<b>Wetland Hydrology Indicators:</b>			
<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)		
<b>Field Observations:</b>		<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <input type="text"/>		
Water Table Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <input type="text"/>		
Saturation Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <input type="text"/>		
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			
No hydrology indicators present.			

<b>Site:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Date:</b> June 10, 2020
<b>Wetland:</b> w-aeh-20200610-01	<b>Rater:</b> AH, 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)

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)

- ☐ 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)

10	7
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
- ☐ dike
- ☒ tile
- ☐ weir
- ☐ stormwater input
- ☐ point source (nonstormwater)
- ☒ filling/grading
- ☐ road bed/RR track
- ☐ dredging
- ☐ other- list

17	7
Subtotal	Points

### Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

17	subtotal this page
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<b>Site:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild	<b>Date:</b> June 10, 2020
<b>Wetland:</b> w-aeh-20200610-01	<b>Rater:</b> AH, SM

17 subtotal first page

17	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)  |

21	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  |
| 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)        |
| <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 type="checkbox"/>            | Nearly Absent <5% cover (0) |
| <input checked="" 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 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

21 GRAND TOTAL (max 100 pts)

Provisional Wetland Category:

Category 1


<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
----------------------------	---	--------------------------------

<b>Wetland 077</b>	
<b>Date:</b> June 10, 2020	
<b>Description:</b> PEM wetland Category 1 Facing North	

<b>Wetland 077</b>	
<b>Date:</b> June 10, 2020	
<b>Description:</b> PEM wetland Category 1 Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
----------------------------	---	--------------------------------

<b>Wetland 077</b>	
<b>Date:</b> June 10, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing South	

<b>Wetland 077</b>	
<b>Date:</b> June 10, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
----------------------------	---	--------------------------------

<b>Wetland 077</b>	
<b>Date:</b> June 10, 2020	
<b>Description:</b>  PEM wetland  Category 1  Soil Pit	

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/09/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-aeh-200609-01  
 Investigator(s): AEH, SKM Section, Township, Range: S20. T1N. R11W

Landform (hillside, terrace, etc.): Depressional Local relief (concave, convex, none): concave

Slope (%): 10 Lat: 39.97449 Long: -82.311159 Datum: NAD 83

Soil Map Unit Name: CoD2 - Coshocton silt loam, 12 to 18 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>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Point in for PEM Wetland 078, located along hillside along intermittent Stream 084.	

### VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> 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)																																								
1.																																													
2.																																													
3.																																													
4.																																													
5.																																													
		=Total Cover																																											
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )																																													
1.	<u>Rosa multiflora</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Total % Cover of:</th> <th style="width: 10%;"></th> <th style="width: 10%;">Multiply by:</th> <th style="width: 10%;"></th> <th style="width: 10%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td><u>37</u></td> <td>x 1 =</td> <td><u>37</u></td> <td></td> </tr> <tr> <td>FACW species</td> <td><u>30</u></td> <td>x 2 =</td> <td><u>60</u></td> <td></td> </tr> <tr> <td>FAC species</td> <td><u>20</u></td> <td>x 3 =</td> <td><u>60</u></td> <td></td> </tr> <tr> <td>FACU species</td> <td><u>10</u></td> <td>x 4 =</td> <td><u>40</u></td> <td></td> </tr> <tr> <td>UPL species</td> <td><u>0</u></td> <td>x 5 =</td> <td><u>0</u></td> <td></td> </tr> <tr> <td>Column Totals:</td> <td><u>97</u></td> <td>(A)</td> <td><u>197</u></td> <td>(B)</td> </tr> <tr> <td colspan="5">Prevalence Index = B/A = <u>2.03</u></td> </tr> </tbody> </table>	Total % Cover of:		Multiply by:			OBL species	<u>37</u>	x 1 =	<u>37</u>		FACW species	<u>30</u>	x 2 =	<u>60</u>		FAC species	<u>20</u>	x 3 =	<u>60</u>		FACU species	<u>10</u>	x 4 =	<u>40</u>		UPL species	<u>0</u>	x 5 =	<u>0</u>		Column Totals:	<u>97</u>	(A)	<u>197</u>	(B)	Prevalence Index = B/A = <u>2.03</u>				
Total % Cover of:		Multiply by:																																											
OBL species	<u>37</u>	x 1 =	<u>37</u>																																										
FACW species	<u>30</u>	x 2 =	<u>60</u>																																										
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FACU species	<u>10</u>	x 4 =	<u>40</u>																																										
UPL species	<u>0</u>	x 5 =	<u>0</u>																																										
Column Totals:	<u>97</u>	(A)	<u>197</u>	(B)																																									
Prevalence Index = B/A = <u>2.03</u>																																													
2.																																													
3.																																													
4.																																													
5.																																													
		=Total Cover																																											
<b>Herb Stratum</b> (Plot size: <u>5'</u> )																																													
1.	<u>Poa pratensis</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																								
2.	<u>Carex frankii</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>																																									
3.	<u>Impatiens capensis</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>																																									
4.	<u>Onoclea sensibilis</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																																									
5.	<u>Carex lurida</u>	<u>10</u>	<u>No</u>	<u>OBL</u>																																									
6.	<u>Juncus effusus</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																																									
7.	<u>Dichanthelium clandestinum</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																																									
8.	<u>Scirpus atrovirens</u>	<u>2</u>	<u>No</u>	<u>OBL</u>																																									
9.																																													
10.																																													
		=Total Cover																																											
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )																																													
1.					<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>    </u>																																								
2.																																													
		=Total Cover																																											
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation indicator present as Dominance Test > 50%																																													



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 <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR 5/1	90	10YR 6/6	10	C	PL	Loamy/Clayey	Prominent redox concentrations
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.							<sup>2</sup> Location: PL=Pore Lining, M=Matrix.	
<b>Hydric Soil Indicators:</b>				<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>				
<input type="checkbox"/> Histosol (A1)		<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> ? Coast Prairie Redox (A16)				
<input type="checkbox"/> Histic Epipedon (A2)		<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Iron-Manganese Masses (F12)				
<input type="checkbox"/> Black Histic (A3)		<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Red Parent Material (F21)				
<input type="checkbox"/> Hydrogen Sulfide (A4)		<input type="checkbox"/> Dark Surface (S7)		<input type="checkbox"/> Very Shallow Dark Surface (F22)				
<input type="checkbox"/> Stratified Layers (A5)		<input type="checkbox"/> Loamy Mucky Mineral (F1)		<input type="checkbox"/> Other (Explain in Remarks)				
<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)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.				
<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)						
<b>Restrictive Layer (if observed):</b>								
Type: _____								
Depth (inches): _____						Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
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. ( <a href="https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf">https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf</a> ) Hydric soil indicator present as low chroma/high value depleted matrix.								
<b>HYDROLOGY</b>								
<b>Wetland Hydrology Indicators:</b>								
Primary Indicators (minimum of one is required; check all that apply)						Secondary Indicators (minimum of two required)		
<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 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)						
<b>Field Observations:</b>								
Surface Water Present?		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____				
Water Table Present?		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____				
Saturation Present?		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____				
(includes capillary fringe)						Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								
Remarks: Wetland is adjacent to Stream 084, an intermittent stream that drains to Claylick Creek that flows north to Licking River that flows east to Muskingum River, a TNW.								

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/09/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-aeh-200609-01  
 Investigator(s): AEH, SKM Section, Township, Range: S 20. T1N. R11W

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): concave

Slope (%): 5 Lat: 39.974532 Long: -82.311101 Datum: NAD 83

Soil Map Unit Name: CoD2 - Coshocton silt loam, 12 to 18 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>    </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u>    </u> No <u>X</u>
Hydric Soil Present? Yes <u>X</u> No <u>    </u>	
Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	
Remarks: Upland 082 point out to Wetland 078. Not a wetland point as hydrophytic vegetation and hydrology criteria not met.	

## VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</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> )				<b>Prevalence Index worksheet:</b> <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>15</u></td> <td>x 2 = <u>30</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>70</u></td> <td>x 4 = <u>280</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>95</u> (A)</td> <td><u>320</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.37</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>15</u>	x 2 = <u>30</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>70</u>	x 4 = <u>280</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>95</u> (A)	<u>320</u> (B)	Prevalence Index = B/A = <u>3.37</u>	
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Prevalence Index = B/A = <u>3.37</u>																					
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2. <u>    </u>																					
3. <u>    </u>																					
4. <u>    </u>																					
5. <u>    </u>																					
		=Total Cover																			
Herb Stratum	(Plot size: <u>5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Schedonorus arundinaceus</u>		<u>40</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Dichanthelium clandestinum</u>		<u>15</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Rosa multiflora</u>		<u>15</u>	<u>Yes</u>	<u>FACU</u>																	
4. <u>Carex frankii</u>		<u>10</u>	<u>No</u>	<u>OBL</u>																	
5. <u>Taraxacum officinale</u>		<u>10</u>	<u>No</u>	<u>FACU</u>																	
6. <u>Plantago lanceolata</u>		<u>5</u>	<u>No</u>	<u>FACU</u>																	
7. <u>    </u>																					
8. <u>    </u>																					
9. <u>    </u>																					
10. <u>    </u>																					
		<u>95</u> =Total Cover																			
Woody Vine Stratum	(Plot size: <u>30'</u> )				<b>Hydrophytic Vegetation Present? Yes <u>    </u> No <u>X</u></b>																
1. <u>    </u>																					
2. <u>    </u>																					
		=Total Cover																			
Remarks: (Include photo numbers here or on a separate sheet.) No hydrophytic vegetation indicators present.																					

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ Coast Prairie Redox (A16)  
☐ Iron-Manganese Masses (F12)  
☐ Red Parent Material (F21)  
☐ Very Shallow Dark Surface (F22)  
☐ Other (Explain in Remarks)

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

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

Hydric Soil Present?                      Yes    X            No

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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))

Hydric soil indicator present as low chroma/high value depleted matrix

### Wetland Hydrology Indicators:

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)

Surface Water Present? Yes \_\_\_\_\_ No x Depth (inches): \_\_\_\_\_  
 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

## Wetland 078

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/9/2020

1

1

### Metric 1. Wetland Area (size).

Field Id:

w-aeh-20200609-01

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)

0.14 acres

9

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 checked="" type="checkbox"/> dredging          |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other:                       |

9.5

31.5

### 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 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 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              |

31.5

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating



**Wetland 078**

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/9/2020

**31.5**

subtotal this page

**0 31.5**

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 33.5**

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)  
☒ x 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)  
☒ x 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-aeH-20200609-01

**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

Modified Category 2

**33.5** GRAND TOTAL(max 100 pts)


<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 078</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing North	

<b>Wetland 078</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 078</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing South	

<b>Wetland 078</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 078</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 2  Soil Pit	



## Wetland 079

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/09/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-aeh-200609-02  
 Investigator(s): AEH, SKM Section, Township, Range: S19. T1N. R11W

Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): concave

Slope (%): 0 Lat: 39.97578 Long: -82.31181 Datum: NAD 83

Soil Map Unit Name: GfB - Glenford silt loam, 2 to 6 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> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Point in to Wetland 079 is located along Stream 085 (Claylick Creek) and Stream 084 (an intermittent stream that drains into Claylick Creek). Wetland fully delineated.	

### 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>Poa pratensis</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>	
2.	<u>Carex frankii</u>	<u>25</u>	<u>Yes</u>	<u>OBL</u>	
3.	<u>Dichanthelium clandestinum</u>	<u>15</u>	<u>No</u>	<u>FACW</u>	
4.	<u>Impatiens capensis</u>	<u>15</u>	<u>No</u>	<u>FACW</u>	
5.	<u>Juncus effusus</u>	<u>10</u>	<u>No</u>	<u>OBL</u>	
6.	<u>Carex lurida</u>	<u>5</u>	<u>No</u>	<u>OBL</u>	
7.					
8.					
9.					
10.					
		100 =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>40</u>	x 1 =	<u>40</u>
FACW species	<u>30</u>	x 2 =	<u>60</u>
FAC species	<u>30</u>	x 3 =	<u>90</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>190</u> (B)
Prevalence Index = B/A =		<u>1.90</u>	

**Hydrophytic Vegetation Indicators:**  
     1 - Rapid Test for Hydrophytic Vegetation  
X 2 - Dominance Test is >50%  
X 3 - Prevalence Index is ≤3.0<sup>1</sup>  
     4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
     Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators 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%

## SOIL

Sampling Point: -aeh-200609-

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 <sup>1</sup>	Loc <sup>2</sup>		
0-10	10YR 4/1	85	10YR 6/8	15	C	PL	Loamy/Clayey	Prominent redox concentrations
10-18	10YR 3/1	90	10YR 6/8	10	C	PL	Loamy/Clayey	Prominent redox concentrations

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<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)
<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
Hydric soil indicator present as low chroma/high value depleted matrix with required redox concentrations.

## 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 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)		

<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): 12 (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

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

Remarks:  
Multiple hydrology indicators present. The wetland drains to Claylick Creek that flows north to Licking River that flows east to Muskingum River, a TNW.

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/09/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-aeh-200609-02  
 Investigator(s): AEH, SKM Section, Township, Range: S19. T1N. R11W

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): concave

Slope (%): 5 Lat: 39.975944 Long: -82.311947 Datum: NAD 83

Soil Map Unit Name: GfB - Glenford silt loam, 2 to 6 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: Upland 083 is point out located northwest of Wetland 079. 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	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</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>50.0%</u> (A/B)																
1.																					
2.																					
3.																					
4.																					
5.																					
		=Total Cover																			
Sapling/Shrub Stratum	(Plot size: <u>15'</u> )				<b>Prevalence Index worksheet:</b> <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>40</u></td> <td>x 2 = <u>80</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>70</u></td> <td>x 4 = <u>280</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>110</u> (A)</td> <td><u>360</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.27</u></td> </tr> </tbody> </table>	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>0</u>	x 3 = <u>0</u>	FACU species <u>70</u>	x 4 = <u>280</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>110</u> (A)	<u>360</u> (B)	Prevalence Index = B/A = <u>3.27</u>	
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>0</u>	x 3 = <u>0</u>																				
FACU species <u>70</u>	x 4 = <u>280</u>																				
UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>110</u> (A)	<u>360</u> (B)																				
Prevalence Index = B/A = <u>3.27</u>																					
1. <u>Fraxinus pennsylvanica</u>		<u>10</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Rosa multiflora</u>		<u>5</u>	<u>Yes</u>	<u>FACU</u>																	
3.																					
4.																					
5.																					
		<u>15</u> =Total Cover																			
Herb Stratum	(Plot size: <u>5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Arrhenatherum elatius</u>		<u>60</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Dichanthelium clandestinum</u>		<u>20</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Onoclea sensibilis</u>		<u>10</u>	<u>No</u>	<u>FACW</u>																	
4. <u>Dactylis glomerata</u>		<u>5</u>	<u>No</u>	<u>FACU</u>																	
5.																					
6.																					
7.																					
8.																					
9.																					
10.																					
		<u>95</u> =Total Cover																			
Woody Vine Stratum	(Plot size: <u>30'</u> )				<b>Hydrophytic Vegetation</b> Present? Yes <u>    </u> No <u>X</u>																
1.																					
2.																					
		=Total Cover																			
Remarks: (Include photo numbers here or on a separate sheet.) No hydrophytic vegetation indicators present.																					

**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 <sup>1</sup>	Loc <sup>2</sup>		
0-8	10YR 5/3	100					Loamy/Clayey	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)  
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)  
☐ Black Histic (A3) ☐ Stripped Matrix (S6)  
☐ Hydrogen Sulfide (A4) ☐ Dark Surface (S7)  
☐ Stratified Layers (A5) ☐ Loamy Mucky Mineral (F1)  
☐ 2 cm Muck (A10) ☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3)  
☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6)  
☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7)  
☐ 5 cm Mucky Peat or Peat (S3) ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ Coast Prairie Redox (A16)  
☐ Iron-Manganese Masses (F12)  
☐ Red Parent Material (F21)  
☐ Very Shallow Dark Surface (F22)  
☐ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes \_\_\_\_\_ No X

**Remarks:**

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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))

No hydric soil indicators present. Shovel refusal at 8 inches depth due to rocks.

**HYDROLOGY****Wetland Hydrology Indicators:**Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Water-Stained Leaves (B9)  
☐ High Water Table (A2) ☐ Aquatic Fauna (B13)  
☐ Saturation (A3) ☐ True Aquatic Plants (B14)  
☐ Water Marks (B1) ☐ Hydrogen Sulfide Odor (C1)  
☐ Sediment Deposits (B2) ☐ Oxidized Rhizospheres on Living Roots (C3)  
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)  
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils (C6)  
☐ Iron Deposits (B5) ☐ Thin Muck Surface (C7)  
☐ Inundation Visible on Aerial Imagery (B7) ☐ Gauge or Well Data (D9)  
☐ Sparsely Vegetated Concave Surface (B8) ☐ 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): \_\_\_\_\_  
 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



## Wetland 079

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/9/2020

**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)

0.08 acres

**9 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)

**10.0 19.0**

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 checked="" type="checkbox"/> dredging          |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other:                       |

**9.5 28.5**

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 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 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              |

**28.5**

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

**Wetland 079**

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/9/2020

**28.5**

subtotal this page

**0 28.5**

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 30.5**

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)  
☒ x 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)  
☒ x 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-aeH-20200609-02

**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

Modified Category 2

**30.5 GRAND TOTAL(max 100 pts)**

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 079</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing North	

<b>Wetland 079</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 079</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing South	

<b>Wetland 079</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 079</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 2  Soil Pit	

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/09/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-aeh-200609-01  
 Investigator(s): AEH, SKM Section, Township, Range: S19. T1N. R11W

Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): none

Slope (%): 0 Lat: 39.977406 Long: -82.31278 Datum: NAD 83

Soil Map Unit Name: CoD2 - Coshocton silt loam, 12 to 18 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>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Point in to PEM Wetland 080 is adjacent to Stream 087, crosses a grassed path and is driven through a small portion, disturbances not 'significant'. Wetland fully delineated.	

### 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
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15'</u> )				
1.					
2.					
3.					
4.					
5.					
					=Total Cover
<u>Herb Stratum</u>	(Plot size: <u>5'</u> )				
1.	<u>Carex lurida</u>	<u>25</u>	<u>Yes</u>	<u>OBL</u>	
2.	<u>Impatiens capensis</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>	
3.	<u>Scirpus atrovirens</u>	<u>15</u>	<u>Yes</u>	<u>OBL</u>	
4.	<u>Dichanthelium clandestinum</u>	<u>10</u>	<u>No</u>	<u>FACW</u>	
5.	<u>Juncus effusus</u>	<u>10</u>	<u>No</u>	<u>OBL</u>	
6.	<u>Eupatorium perfoliatum</u>	<u>5</u>	<u>No</u>	<u>OBL</u>	
7.					
8.					
9.					
10.					
					<u>80</u> =Total Cover
<u>Woody Vine Stratum</u>	(Plot size: <u>30'</u> )				
1.					
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: 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>55</u>	x 1 = <u>55</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>80</u> (A)	<u>105</u> (B)
Prevalence Index = B/A = <u>1.31</u>	

**Hydrophytic Vegetation Indicators:**  
X 1 - Rapid Test for Hydrophytic Vegetation  
X 2 - Dominance Test is >50%  
X 3 - Prevalence Index is ≤3.0<sup>1</sup>  
     4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
     Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators 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 Rapid Test.

[illegible]

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 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)		
<b>Field Observations:</b>			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
(includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			
Multiple hydrology indicators present. Wetland drains to the Stream 087, an intermittent stream that drains to Claylick Creek that flows north to Licking River that flows east to Muskingum River, a TNW.			



## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/09/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-aeh-200609-03  
 Investigator(s): AEH, SKM Section, Township, Range: S19. T1N. R11W

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none

Slope (%): 0 Lat: 39.977491 Long: -82.313010 Datum: NAD 83

Soil Map Unit Name: CoD2 - Coshocton silt loam, 12 to 18 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>    </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: Upland 084 is point out located north of Wetland 080. 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	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</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>25.0%</u> (A/B)																
1.																					
2.																					
3.																					
4.																					
5.																					
			=Total Cover																		
Sapling/Shrub Stratum	(Plot size: <u>15'</u> )				<b>Prevalence Index worksheet:</b> <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>15</u></td> <td>x 1 = <u>15</u></td> </tr> <tr> <td>FACW species <u>30</u></td> <td>x 2 = <u>60</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>75</u></td> <td>x 4 = <u>300</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>120</u> (A)</td> <td><u>375</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.13</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>15</u>	x 1 = <u>15</u>	FACW species <u>30</u>	x 2 = <u>60</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>75</u>	x 4 = <u>300</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>120</u> (A)	<u>375</u> (B)	Prevalence Index = B/A = <u>3.13</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>15</u>	x 1 = <u>15</u>																				
FACW species <u>30</u>	x 2 = <u>60</u>																				
FAC species <u>0</u>	x 3 = <u>0</u>																				
FACU species <u>75</u>	x 4 = <u>300</u>																				
UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>120</u> (A)	<u>375</u> (B)																				
Prevalence Index = B/A = <u>3.13</u>																					
1. <u>Fraxinus pennsylvanica</u>		<u>10</u>	<u>Yes</u>	<u>FACW</u>																	
2.																					
3.																					
4.																					
5.																					
		<u>10</u>	=Total Cover																		
Herb Stratum	(Plot size: <u>5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Arrhenatherum elatius</u>		<u>45</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Schedonorus arundinaceus</u>		<u>15</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Rosa multiflora</u>		<u>15</u>	<u>Yes</u>	<u>FACU</u>																	
4. <u>Fraxinus pennsylvanica</u>		<u>10</u>	<u>No</u>	<u>FACW</u>																	
5. <u>Dichanthelium clandestinum</u>		<u>10</u>	<u>No</u>	<u>FACW</u>																	
6. <u>Juncus effusus</u>		<u>10</u>	<u>No</u>	<u>OBL</u>																	
7. <u>Scirpus atrovirens</u>		<u>5</u>	<u>No</u>	<u>OBL</u>																	
8.																					
9.																					
10.																					
		<u>110</u>	=Total Cover																		
Woody Vine Stratum	(Plot size: <u>30'</u> )				<b>Hydrophytic Vegetation Present? Yes <u>    </u> No <u>X</u></b>																
1.																					
2.																					
			=Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) No hydrophytic vegetation indicators present.																					

## SOIL

Sampling Point: |-aeh-200609

[illegible]

## 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 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)		
<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> Water Table Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> Saturation Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: No hydrology indicators present			

## Wetland 080

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/9/2020

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-20200609-03

0.06 acres

9 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)

10.0 19.0

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 checked="" type="checkbox"/> dredging          |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other:                       |

8 27

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 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              |

27

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

**Wetland 080**

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/9/2020

**27**

subtotal this page

**0****27**

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****30**

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) 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

Field Id:

w-aeH-20200609-03

**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

**30** GRAND TOTAL(max 100 pts)



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 080</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing North	

<b>Wetland 080</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing East	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 080</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing South	

<b>Wetland 080</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 080</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 2  Soil Pit	

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/09/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-aeH-200609-04  
 Investigator(s): AEH, SKM Section, Township, Range: S19. T1N. R11W

Landform (hillside, terrace, etc.): Lowland Local relief (concave, convex, none): concave

Slope (%): 5 Lat: 39.979925 Long: -82.31393 Datum: NAD 83

Soil Map Unit Name: HoC2 - Homewood silt loam, 6 to 12 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>	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: Point in to Wetland 081 is PEM wetland adjacent to ephemeral Stream 088 and near ephemeral Stream 089. Wetland fully delineated.	

## 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 lurida</u>	<u>55</u>	<u>Yes</u>	<u>OBL</u>
2.	<u>Juncus effusus</u>	<u>30</u>	<u>Yes</u>	<u>OBL</u>
3.	<u>Poa pratensis</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>
4.	<u>Eupatorium perfoliatum</u>	<u>10</u>	<u>No</u>	<u>OBL</u>
5.				
6.				
7.				
8.				
9.				
10.				
		<u>125</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: 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>95</u>	x 1 = <u>95</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>30</u>	x 3 = <u>90</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>125</u> (A)	<u>185</u> (B)
Prevalence Index = B/A = <u>1.48</u>	

**Hydrophytic Vegetation Indicators:**

     1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0<sup>1</sup>

     4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

     Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators 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%



Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-10	10YR 3/1	90	10YR 6/6	10	C	PL	Loamy/Clayey	Prominent redox concentrations
10-18	10YR 4/1	85	10YR 6/8	15	C	PL	Loamy/Clayey	Prominent redox concentrations
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.					<sup>2</sup> Location: PL=Pore Lining, M=Matrix.			
<b>Hydric Soil Indicators:</b>					<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>			
<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 checked="" type="checkbox"/> Depleted Below Dark Surface (A11)					<input checked="" type="checkbox"/> Depleted Matrix (F3)			
<input type="checkbox"/> Thick Dark Surface (A12)					<input checked="" 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)			
					<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
<b>Restrictive Layer (if observed):</b>								
Type: _____								
Depth (inches): _____								
					<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
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. ( <a href="https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf">https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf</a> )								
Hydric soil indicator present as low chroma/high value depleted matrix with required redox concentrations, and low chroma/low value matrix with required redox concentrations.								
<b>HYDROLOGY</b>								
<b>Wetland Hydrology Indicators:</b>								
Primary Indicators (minimum of one is required; check all that apply)					Secondary Indicators (minimum of two required)			
<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 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 type="checkbox"/> Sparsely Vegetated Concave Surface (B8)					<input type="checkbox"/> Other (Explain in Remarks)			
<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)			
<b>Field Observations:</b>								
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____								
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____								
Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): 12								
(includes capillary fringe)								
<b>Wetland Hydrology Present?</b> 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. The wetland abuts two ephemeral streams that drain to Claylick Creek that flows north to Licking River that flows east to Muskingum River, a TNW.								

# WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/09/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-aeh-200609-04  
 Investigator(s): AEH, SKM Section, Township, Range: S19. T1N. R11W

Landform (hillside, terrace, etc.): hillside

Slope (%): 0    Lat: 39.979836    Long: -82.31408    Datum: NAD 83

Soil Map Unit Name: HoC2 - Homewood silt loam, 6 to 12 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 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> Hydric Soil Present?                    Yes <u>      </u> No <u>  X  </u> Wetland Hydrology Present?        Yes <u>      </u> No <u>  X  </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>      </u> No <u>  X  </u>
Remarks: Upland 085 is point out to Wetland 081 located south of wetland boundary. Not a wetland point as no wetland criteria met.	

**VEGETATION** – Use scientific names of plants.

Tree Stratum		Absolute % Cover	Dominant Species?	Indicator Status
(Plot size: 30')				
1.				
2.				
3.				
4.				
5.				
			=Total Cover	
Sapling/Shrub Stratum		Absolute % Cover	Dominant Species?	Indicator Status
(Plot size: 15')				
1.				
2.				
3.				
4.				
5.				
			=Total Cover	
Herb Stratum		Absolute % Cover	Dominant Species?	Indicator Status
(Plot size: 5')				
1.	<i>Arrhenatherum elatius</i>	45	Yes	FACU
2.	<i>Cirsium arvense</i>	30	Yes	FACU
3.	<i>Poa pratensis</i>	15	No	FAC
4.	<i>Carex molesta</i>	5	No	FAC
5.	<i>Dichanthelium clandestinum</i>	5	No	FACW
6.	<i>Rumex crispus</i>	3	No	FAC
7.				
8.				
9.				
10.				
		103	=Total Cover	
Woody Vine Stratum		Absolute % Cover	Dominant Species?	Indicator Status
(Plot size: 30')				
1.				
2.				
			=Total Cover	

**Dominance Test worksheet:**

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 5	x 2 = 10
FAC species 23	x 3 = 69
FACU species 75	x 4 = 300
UPL species 0	x 5 = 0
Column Totals: 103 (A)	379 (B)

Prevalence Index = B/A = 3.68

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is  $\leq 3.0^1$

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators 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.

## 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 <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR 4/2	100					Loamy/Clayey	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: 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 Soils<sup>3</sup>:**

<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)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

 Hydric Soil Present? Yes \_\_\_\_\_ No X
**Remarks:**
 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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))

No hydric soil indicators present, low chroma/high value matrix without required redox concentrations.

## 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)

<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 type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present?	Yes _____	No <u>x</u>	Depth (inches): _____
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 X

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

**Remarks:**

No hydrology indicators present.

## Wetland 081

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/9/2020

1

1

### Metric 1. Wetland Area (size).

Field Id:

w-aeh-20200609-04

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)

0.26 acres

9

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)

7.0

17.0

### 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 checked="" type="checkbox"/> dredging          |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other:                       |

9.5

26.5

### 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 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 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              |

26.5

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating



## Wetland 081

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/9/2020

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)

2 28.5

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)
- ☒ x 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)
- ☒ x 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-aeH-20200609-04

#### 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


28.5 GRAND TOTAL(max 100 pts)

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 081</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing North	

<b>Wetland 081</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing East	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 081</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing South	

<b>Wetland 081</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 081</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 1  Soil Pit	



## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/09/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-aeh-200609-05  
 Investigator(s): AEH, SKM Section, Township, Range: S12. T1N. R11W

Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): none

Slope (%): 0 Lat: 39.98444 Long: -82.31584 Datum: NAD 83

Soil Map Unit Name: Or - Orrville silt loam, 0 to 3 percent slopes, occasionally flooded 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>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Point in to Wetland 082 is located south of perennial Stream 090 and extends to the west outside of the survey corridor.	

### VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> 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)																
1. <u>    </u>																					
2. <u>    </u>																					
3. <u>    </u>																					
4. <u>    </u>																					
5. <u>    </u>																					
		=Total Cover			<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>73</u></td> <td>x 1 = <u>73</u></td> </tr> <tr> <td>FACW species <u>3</u></td> <td>x 2 = <u>6</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>106</u> (A)</td> <td><u>174</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>1.64</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>73</u>	x 1 = <u>73</u>	FACW species <u>3</u>	x 2 = <u>6</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>106</u> (A)	<u>174</u> (B)	Prevalence Index = B/A = <u>1.64</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>73</u>	x 1 = <u>73</u>																				
FACW species <u>3</u>	x 2 = <u>6</u>																				
FAC species <u>25</u>	x 3 = <u>75</u>																				
FACU species <u>5</u>	x 4 = <u>20</u>																				
UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>106</u> (A)	<u>174</u> (B)																				
Prevalence Index = B/A = <u>1.64</u>																					
		=Total Cover																			
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )																					
1. <u>    </u>																					
2. <u>    </u>																					
3. <u>    </u>																					
4. <u>    </u>																					
5. <u>    </u>																					
		=Total Cover																			
<b>Herb Stratum</b> (Plot size: <u>5'</u> )																					
1. <u>Carex lurida</u>		<u>40</u>	<u>Yes</u>	<u>OBL</u>																	
2. <u>Juncus effusus</u>		<u>30</u>	<u>Yes</u>	<u>OBL</u>																	
3. <u>Poa pratensis</u>		<u>15</u>	<u>No</u>	<u>FAC</u>																	
4. <u>Equisetum arvense</u>		<u>10</u>	<u>No</u>	<u>FAC</u>																	
5. <u>Asclepias syriaca</u>		<u>5</u>	<u>No</u>	<u>FACU</u>																	
6. <u>Elymus riparius</u>		<u>3</u>	<u>No</u>	<u>FACW</u>																	
7. <u>Acorus americanus</u>		<u>3</u>	<u>No</u>	<u>OBL</u>																	
8. <u>    </u>																					
9. <u>    </u>																					
10. <u>    </u>																					
		<u>106</u> =Total Cover																			
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )																					
1. <u>    </u>																					
2. <u>    </u>																					
		=Total Cover																			
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation indicator present, dominance test > 50%																					

## SOIL

Sampling Point: -aeh-200609-

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 <sup>1</sup>	Loc <sup>2</sup>		
0-5	10YR 3/1	100					Loamy/Clayey	
5-18	10YR 4/1	95	10YR 6/6	5	C	PL	Loamy/Clayey	Prominent redox concentrations

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> ? Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10)	
<input checked="" 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 checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

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

Restrictive Layer (if observed):	Hydric Soil Present?
Type: _____	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Depth (inches): _____	

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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
Hydric soil indicator present as low chroma/high value depleted matrix with required redox concentrations present below a layer having chroma of 1.

## 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 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 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:				Wetland Hydrology Present?
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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)				

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

Remarks:  
Multiple primary and secondary hydrology indicators present. Wetland is adjacent to Stream 090, Claylick Creek, a perennial stream that flows north to Licking River that flows east to Muskingum River, a TNW.

# WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: <u>Crooksville-North Newark 138 kV Transmission Line</u>	City/County: <u>Licking County</u>	Sampling Date: <u>06/09/2020</u>
Applicant/Owner: <u>AEP</u>	State: <u>OH</u>	Sampling Point: <u>upl-aeh-200609-05</u>
Investigator(s): <u>AEH, SKM</u>	Section, Township, Range: <u>S19. T1N. R11W</u>	

Landform (hillside, terrace, etc.): floodplain

Slope (%): 0    Lat: 39.984599    Long: -82.31585    Datum: NAD 83

Soil Map Unit Name: Or - Orrville silt loam, 0 to 3 percent slopes, occasionally 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	<u>      </u>	No	<u>  X  </u>	<b>Is the Sampled Area within a Wetland?</b>	Yes	<u>      </u>	No	<u>  X  </u>
Hydric Soil Present?	Yes	<u>  X  </u>	No	<u>      </u>					
Wetland Hydrology Present?	Yes	<u>  X  </u>	No	<u>      </u>					
Remarks: Upland 086 is point out to Wetland 082 north of wetland and east of Stream 090. Not a wetland point as hydrophytic vegetation criteria not met.									

**VEGETATION** – Use scientific names of plants.

Tree Stratum	(Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
5.				
			=Total Cover	
Sapling/Shrub Stratum	(Plot size: 15')			
1.				
2.				
3.				
4.				
5.				
			=Total Cover	
Herb Stratum	(Plot size: 5')			
1. <i>Poa pratensis</i>		20	Yes	FAC
2. <i>Schedonorus arundinaceus</i>		20	Yes	FACU
3. <i>Thinopyrum intermedium</i>		20	Yes	UPL
4. <i>Trifolium repens</i>		10	No	FACU
5. <i>Carex lurida</i>		10	No	OBL
6.				
7.				
8.				
9.				
10.				
		80	=Total Cover	
Woody Vine Stratum	(Plot size: 30')			
1.				
2.				
			=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 10	x 1 = 10
FACW species 0	x 2 = 0
FAC species 20	x 3 = 60
FACU species 30	x 4 = 120
UPL species 20	x 5 = 100
Column Totals: 80 (A)	290 (B)
Prevalence Index = B/A = 3.63	

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators 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.

## SOIL

HYDROLOGY			
<b>Wetland Hydrology Indicators:</b>			
<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 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 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)		
<b>Field Observations:</b>			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
(includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			
One primary secondary hydrology indicator present.			



## Wetland 082

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/9/2020

**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)

0.05 acres

**2 2**

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 9.0**

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 checked="" type="checkbox"/> dredging          |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other:                       |

**6 15**

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 type="checkbox"/> sedimentation                    |
| <input checked="" type="checkbox"/> selective cutting    | <input type="checkbox"/> dredging                         |
| <input checked="" type="checkbox"/> woody debris removal | <input checked="" type="checkbox"/> farming               |
| <input type="checkbox"/> toxic pollutants                | <input type="checkbox"/> nutrient enrichment              |

**15**

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

**Wetland 082**

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/9/2020

**15**

subtotal this page

**0****15**

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****17**

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)  
☒ x 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)  
☒ x 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  
☒ 0 Amphibian breeding pools

Field Id:

w-aeH-20200609-05

**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

**17** GRAND TOTAL(max 100 pts)


<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 082</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing North	

<b>Wetland 082</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing East	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 082</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing South	

<b>Wetland 082</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 082</b>	
<b>Date:</b> June 9, 2020	
<b>Description:</b>  PEM wetland  Category 1  Soil Pit	

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/05/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-200605-04a  
 Investigator(s): AEH, JBL Section, Township, Range: S 12 T 1 N R 11 W

Landform (hillside, terrace, etc.): depressional Local relief (concave, convex, none): none

Slope (%): 0 Lat: 39.992584 Long: -82.31832 Datum: NAD 83

Soil Map Unit Name: Or - Orrville silt loam, 0 to 3 percent slopes, occasionally flooded NWI classification: PEM1C

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>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Sample point in of PEM portion of Wetland 083a, a PEM/PSS complex. Wetland extends to east outside study area, abuts perennial Stream 094 (Claylick Creek), and extends upstream in drainage channel along driveway to south.	

### VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> 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)																
1. <u>    </u>																					
2. <u>    </u>																					
3. <u>    </u>																					
4. <u>    </u>																					
5. <u>    </u>																					
		=Total Cover			<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>110</u></td> <td>x 1 = <u>110</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>115</u> (A)</td> <td><u>120</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>1.04</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>110</u>	x 1 = <u>110</u>	FACW species <u>5</u>	x 2 = <u>10</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>115</u> (A)	<u>120</u> (B)	Prevalence Index = B/A = <u>1.04</u>	
Total % Cover of:	Multiply by:																				
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UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>115</u> (A)	<u>120</u> (B)																				
Prevalence Index = B/A = <u>1.04</u>																					
		=Total Cover																			
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )																					
1. <u>    </u>																					
2. <u>    </u>																					
3. <u>    </u>																					
4. <u>    </u>																					
5. <u>    </u>																					
		=Total Cover																			
<b>Herb Stratum</b> (Plot size: <u>5'</u> )																					
1. <u>Acorus americanus</u>	<u>55</u>	<u>Yes</u>	<u>OBL</u>																		
2. <u>Typha angustifolia</u>	<u>40</u>	<u>Yes</u>	<u>OBL</u>																		
3. <u>Alisma subcordatum</u>	<u>10</u>	<u>No</u>	<u>OBL</u>																		
4. <u>Impatiens capensis</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																		
5. <u>Carex crinita</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																		
6. <u>    </u>																					
7. <u>    </u>																					
8. <u>    </u>																					
9. <u>    </u>																					
10. <u>    </u>																					
		115 =Total Cover																			
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )																					
1. <u>    </u>																					
2. <u>    </u>																					
		=Total Cover																			
<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																					
<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>    </u>																					
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation indicator present as rapid test. Dominant species are OBL.																					

## SOIL

Sampling Point: -jbl-200605-0.

[illegible]

## HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input checked="" type="checkbox"/> Surface Water (A1)	<input 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 checked="" type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input checked="" 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 checked="" 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)		
<b>Field Observations:</b> Surface Water Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <input type="text" value="4"/> Water Table Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <input type="text" value="4"/> Saturation Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <input type="text" value="0"/> (includes capillary fringe)			
<b>Wetland Hydrology Present?</b> 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 perennial stream and concentration of precipitation and runoff in geomorphic position. Wetland abuts perennial stream Claylick Creek that flows north to Licking River that flows east to Muskingum River, a TNW.			

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/05/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-200605-04b  
 Investigator(s): AEH, JBL Section, Township, Range: S 12 T 1 N R 11 W

Landform (hillside, terrace, etc.): depressional Local relief (concave, convex, none): none

Slope (%): 0 Lat: 39.99257 Long: -82.31832 Datum: NAD 83

Soil Map Unit Name: Or - Orrville silt loam, 0 to 3 percent slopes, occasionally flooded NWI classification: PEM1C

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: Sample point in of PSS portion of Wetland 083b, a PEM/PSS complex. Wetland extends to east outside study area, abuts perennial Stream 094 (Claylick Creek), and extends upstream in drainage channel along driveway to south.	

## VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</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> )				<b>Prevalence Index worksheet:</b> <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>110</u></td> <td>x 1 = <u>110</u></td> </tr> <tr> <td>FACW species <u>30</u></td> <td>x 2 = <u>60</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</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>170</u> (A)</td> <td><u>270</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>1.59</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>110</u>	x 1 = <u>110</u>	FACW species <u>30</u>	x 2 = <u>60</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>170</u> (A)	<u>270</u> (B)	Prevalence Index = B/A = <u>1.59</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>110</u>	x 1 = <u>110</u>																				
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UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>170</u> (A)	<u>270</u> (B)																				
Prevalence Index = B/A = <u>1.59</u>																					
1. <u>Salix nigra</u>		<u>50</u>	<u>Yes</u>	<u>OBL</u>																	
2. <u>Rosa palustris</u>		<u>10</u>	<u>No</u>	<u>OBL</u>																	
3. <u>    </u>																					
4. <u>    </u>																					
5. <u>    </u>																					
		=Total Cover																			
Herb Stratum	(Plot size: <u>5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Symplocarpus foetidus</u>		<u>35</u>	<u>Yes</u>	<u>OBL</u>																	
2. <u>Impatiens capensis</u>		<u>30</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Poa pratensis</u>		<u>20</u>	<u>No</u>	<u>FAC</u>																	
4. <u>Carex frankii</u>		<u>15</u>	<u>No</u>	<u>OBL</u>																	
5. <u>Solidago canadensis</u>		<u>10</u>	<u>No</u>	<u>FACU</u>																	
6. <u>    </u>																					
7. <u>    </u>																					
8. <u>    </u>																					
9. <u>    </u>																					
10. <u>    </u>																					
		=Total Cover																			
Woody Vine Stratum	(Plot size: <u>30'</u> )				<b>Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u></b>																
1. <u>    </u>																					
2. <u>    </u>																					
		=Total Cover																			
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation indicator present as rapid test, dominant species are OBL and FACW.																					



## SOIL

Sampling Point: -jbl-200605-0.

[illegible]

## 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 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 checked="" 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 type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)		
<b>Field Observations:</b>			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text" value="0"/>
Water Table Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	<input type="text" value="6"/>
Saturation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	<input type="text" value="2"/>
(includes capillary fringe)		<b>Wetland Hydrology Present?</b> 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 perennial stream and concentration of precipitation and runoff in geomorphic position. Wetland abuts perennial stream Claylick Creek that flows north to Licking River that flows east to Muskingum River, a TNW.			

## Upland 087

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/05/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-200605-04  
 Investigator(s): AEH, JBL Section, Township, Range: S 12 T 1 N R 11 W

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none

Slope (%): 0 Lat: 39.99257 Long: -82.31847 Datum: NAD 83

Soil Map Unit Name: Or - Orrville silt loam, 0 to 3 percent slopes, occasionally flooded NWI classification: PEM1C

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: Sample point Upland 087 point out to Wetland 083 and Wetland 084, between wetlands on driveway embankment. 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	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)																
1.																					
2.																					
3.																					
4.																					
5.																					
		=Total Cover																			
Sapling/Shrub Stratum	(Plot size: <u>15'</u> )				<b>Prevalence Index worksheet:</b> <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>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>97</u></td> <td>x 4 = <u>388</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>97</u> (A)</td> <td><u>388</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>4.00</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>97</u>	x 4 = <u>388</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>97</u> (A)	<u>388</u> (B)	Prevalence Index = B/A = <u>4.00</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>0</u>	x 1 = <u>0</u>																				
FACW species <u>0</u>	x 2 = <u>0</u>																				
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1.																					
2.																					
3.																					
4.																					
5.																					
		=Total Cover																			
Herb Stratum	(Plot size: <u>5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1.	<u>Schedonorus arundinaceus</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>																	
2.	<u>Trifolium pratense</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>																	
3.	<u>Melilotus officinalis</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>																	
4.	<u>Solidago canadensis</u>	<u>15</u>	<u>No</u>	<u>FACU</u>																	
5.	<u>Rosa multiflora</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
6.	<u>Taraxacum officinale</u>	<u>2</u>	<u>No</u>	<u>FACU</u>																	
7.																					
8.																					
9.																					
10.																					
		<u>97</u> =Total Cover																			
Woody Vine Stratum	(Plot size: <u>30'</u> )				<b>Hydrophytic Vegetation</b> Present? Yes <u>    </u> No <u>X</u>																
1.																					
2.																					
		=Total Cover																			
Remarks: (Include photo numbers here or on a separate sheet.) No hydrophytic vegetation indicators present, dominance test is not > 50%, prevalence index >3.0. 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 <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR 2/2	100					Loamy/Clayey	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)  
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)  
☐ Black Histic (A3) ☐ Stripped Matrix (S6)  
☐ Hydrogen Sulfide (A4) ☐ Dark Surface (S7)  
☐ Stratified Layers (A5) ☐ Loamy Mucky Mineral (F1)  
☐ 2 cm Muck (A10) ☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3)  
☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6)  
☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7)  
☐ 5 cm Mucky Peat or Peat (S3) ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ Coast Prairie Redox (A16)  
☐ Iron-Manganese Masses (F12)  
☐ Red Parent Material (F21)  
☐ Very Shallow Dark Surface (F22)  
☐ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes \_\_\_\_\_ No X

**Remarks:**

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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 No hydric soil indicators present as low chroma/low value matrix without redox features present.

**HYDROLOGY****Wetland Hydrology Indicators:**Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Water-Stained Leaves (B9)  
☐ High Water Table (A2) ☐ Aquatic Fauna (B13)  
☐ Saturation (A3) ☐ True Aquatic Plants (B14)  
☐ Water Marks (B1) ☐ Hydrogen Sulfide Odor (C1)  
☐ Sediment Deposits (B2) ☐ Oxidized Rhizospheres on Living Roots (C3)  
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)  
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils (C6)  
☐ Iron Deposits (B5) ☐ Thin Muck Surface (C7)  
☐ Inundation Visible on Aerial Imagery (B7) ☐ Gauge or Well Data (D9)  
☐ Sparsely Vegetated Concave Surface (B8) ☐ 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): \_\_\_\_\_  
 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.

## Wetland 083ab

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/5/2020

**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)

Field Id:

w-jbl-20200605-04

1.15

acres

extends outside SA

**5** **7**

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)

**16.5** **23.5**

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 checked="" type="checkbox"/> dredging          |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other:                       |

**13** **36.5**

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 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 checked="" type="checkbox"/> farming               |
| <input type="checkbox"/> toxic pollutants                | <input type="checkbox"/> nutrient enrichment              |

**36.5**

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating



# Wetland 083ab

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/5/2020

Field Id:

w-jbl-20200605-04

36.5

subtotal this page

0 36.5

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)

6 42.5

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.

- ☐ 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

42.5 GRAND TOTAL(max 100 pts)

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 083a</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing North	

<b>Wetland 083a</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 083a</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing South	

<b>Wetland 083a</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 083a</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 2  Soil Pit	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 083b</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PSS wetland  Category 2  Facing North	

<b>Wetland 083b</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PSS wetland  Category 2  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 083b</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PSS wetland  Category 2  Facing South	

<b>Wetland 083b</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PSS wetland  Category 2  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 083b</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PSS wetland  Category 2  Soil Pit	

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/05/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-200605-05  
 Investigator(s): AEH, JBL Section, Township, Range: S 12 T 1 N R 11 W

Landform (hillside, terrace, etc.): depressional Local relief (concave, convex, none): none

Slope (%): 0 Lat: 39.99248 Long: -82.318507 Datum: NAD 83

Soil Map Unit Name: Or - Orrville silt loam, 0 to 3 percent slopes, occasionally flooded NWI classification: PEM1C

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>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Sample point in of Wetland 084, located within a cow pasture. Wetland extends to west outside study area, abuts perennial Stream 094 (Claylick Creek).	

### VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> 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)																
1. <u>    </u>																					
2. <u>    </u>																					
3. <u>    </u>																					
4. <u>    </u>																					
5. <u>    </u>																					
		=Total Cover			<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 40%;">Total % Cover of:</th> <th style="width: 60%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>80</u></td> <td>x 1 = <u>80</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>95</u> (A)</td> <td><u>130</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>1.37</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>80</u>	x 1 = <u>80</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>95</u> (A)	<u>130</u> (B)	Prevalence Index = B/A = <u>1.37</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>80</u>	x 1 = <u>80</u>																				
FACW species <u>0</u>	x 2 = <u>0</u>																				
FAC species <u>10</u>	x 3 = <u>30</u>																				
FACU species <u>5</u>	x 4 = <u>20</u>																				
UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>95</u> (A)	<u>130</u> (B)																				
Prevalence Index = B/A = <u>1.37</u>																					
		=Total Cover																			
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )																					
1. <u>    </u>																					
2. <u>    </u>																					
3. <u>    </u>																					
4. <u>    </u>																					
5. <u>    </u>																					
		=Total Cover																			
<b>Herb Stratum</b> (Plot size: <u>5'</u> )																					
1. <u>Alisma subcordatum</u>	<u>30</u>	<u>Yes</u>	<u>OBL</u>																		
2. <u>Eleocharis palustris</u>	<u>30</u>	<u>Yes</u>	<u>OBL</u>																		
3. <u>Carex lurida</u>	<u>15</u>	<u>No</u>	<u>OBL</u>																		
4. <u>Juncus tenuis</u>	<u>10</u>	<u>No</u>	<u>FAC</u>																		
5. <u>Trifolium pratense</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																		
6. <u>Symplocarpus foetidus</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																		
7. <u>    </u>																					
8. <u>    </u>																					
9. <u>    </u>																					
10. <u>    </u>																					
		<u>95</u> =Total Cover																			
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )																					
1. <u>    </u>																					
2. <u>    </u>																					
		=Total Cover																			
<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																					
<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>    </u>																					
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation indicator present as rapid test, dominant species is OBL.																					



[illegible]

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 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 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 checked="" 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 type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)		
<b>Field Observations:</b>			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text"/>
Saturation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	<input type="text" value="10"/>
(includes capillary fringe)		<b>Wetland Hydrology Present?</b> 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 perennial stream and concentration of precipitation and runoff in geomorphic position. Wetland abuts perennial stream Claylick Creek that flows north to Licking River that flows east to Muskingum River, a TNW.			

## Wetland 084

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/5/2020

**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)

Field Id:

w-jbl-20200605-05

0.36

acres

extends outside SA

**5** **7**

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** **19.0**

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 checked="" type="checkbox"/> dredging          |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other:                       |

**7.5** **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

- |  |   |
|--|---|
| <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 checked="" type="checkbox"/> woody debris removal | <input checked="" type="checkbox"/> farming               |
| <input type="checkbox"/> toxic pollutants                | <input type="checkbox"/> nutrient enrichment              |

**26.5**

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

## Wetland 084

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/5/2020

Field Id:

w-jbl-20200605-05

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)

3 29.5

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) 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

29.5 GRAND TOTAL(max 100 pts)

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 084</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing North	

<b>Wetland 084</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 084</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing South	

<b>Wetland 084</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing West	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 084</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 1  Soil Pit	



## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/04/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-ibl-200604-06  
 Investigator(s): AEH, JBL Section, Township, Range: S12 T1N R11W

Landform (hillside, terrace, etc.): Floodplains Local relief (concave, convex, none): concave

Slope (%): 0 Lat: 39.9929 Long: -82.31826 Datum: NAD 83

Soil Map Unit Name: BrD - Brownsville channery silt loam, 12 to 18 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> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Sample point in to PEM Wetland 085 in swale leading to Claylick Creek, within mapped floodplain of Claylick Creek. Wetland extends to east outside study area.	

### VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> 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>    </u>																													
2. <u>    </u>																													
3. <u>    </u>																													
4. <u>    </u>																													
5. <u>    </u>																													
		=Total Cover																											
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15'</u> )				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 40%;">Total % Cover of:</th> <th style="width: 20%;">Multiply by:</th> <th style="width: 40%;"></th> </tr> <tr> <td>OBL species <u>85</u></td> <td>x 1 =</td> <td><u>85</u></td> </tr> <tr> <td>FACW species <u>30</u></td> <td>x 2 =</td> <td><u>60</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 =</td> <td><u>0</u></td> </tr> <tr> <td>FACU species <u>15</u></td> <td>x 4 =</td> <td><u>60</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 =</td> <td><u>0</u></td> </tr> <tr> <td>Column Totals: <u>130</u> (A)</td> <td></td> <td><u>205</u> (B)</td> </tr> <tr> <td colspan="3">Prevalence Index = B/A = <u>1.58</u></td> </tr> </table>	Total % Cover of:	Multiply by:		OBL species <u>85</u>	x 1 =	<u>85</u>	FACW species <u>30</u>	x 2 =	<u>60</u>	FAC species <u>0</u>	x 3 =	<u>0</u>	FACU species <u>15</u>	x 4 =	<u>60</u>	UPL species <u>0</u>	x 5 =	<u>0</u>	Column Totals: <u>130</u> (A)		<u>205</u> (B)	Prevalence Index = B/A = <u>1.58</u>		
Total % Cover of:	Multiply by:																												
OBL species <u>85</u>	x 1 =	<u>85</u>																											
FACW species <u>30</u>	x 2 =	<u>60</u>																											
FAC species <u>0</u>	x 3 =	<u>0</u>																											
FACU species <u>15</u>	x 4 =	<u>60</u>																											
UPL species <u>0</u>	x 5 =	<u>0</u>																											
Column Totals: <u>130</u> (A)		<u>205</u> (B)																											
Prevalence Index = B/A = <u>1.58</u>																													
1. <u>Salix nigra</u>		<u>5</u>	<u>Yes</u>	<u>OBL</u>																									
2. <u>    </u>																													
3. <u>    </u>																													
4. <u>    </u>																													
5. <u>    </u>																													
		=Total Cover																											
<u>Herb Stratum</u>	(Plot size: <u>5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																								
1. <u>Phalaris arundinacea</u>		<u>25</u>	<u>Yes</u>	<u>FACW</u>																									
2. <u>Eleocharis palustris</u>		<u>20</u>	<u>Yes</u>	<u>OBL</u>																									
3. <u>Carex lurida</u>		<u>20</u>	<u>Yes</u>	<u>OBL</u>																									
4. <u>Juncus effusus</u>		<u>20</u>	<u>Yes</u>	<u>OBL</u>																									
5. <u>Trifolium repens</u>		<u>15</u>	<u>No</u>	<u>FACU</u>																									
6. <u>Symplocarpus foetidus</u>		<u>15</u>	<u>No</u>	<u>OBL</u>																									
7. <u>Carex scoparia</u>		<u>5</u>	<u>No</u>	<u>FACW</u>																									
8. <u>Scirpus pendulus</u>		<u>5</u>	<u>No</u>	<u>OBL</u>																									
9. <u>    </u>																													
10. <u>    </u>																													
		=Total Cover																											
<u>Woody Vine Stratum</u>	(Plot size: <u>30'</u> )				<b>Hydrophytic Vegetation Present?</b> 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 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 <sup>1</sup>	Loc <sup>2</sup>		
0-7	10YR 4/1	90	7.5YR 6/6	10	C	PL	Loamy/Clayey	Prominent redox concentrations
7-18	10YR 5/1	90	7.5YR 6/6	10	C	PL	Loamy/Clayey	Prominent redox concentrations

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

<b>Hydric Soil Indicators:</b> <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 checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <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)
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<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> 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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 Hydric soil indicator present as low chroma/high value depleted matrix with required prominent redox concentrations in pore linings.

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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 checked="" 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 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 type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)		

<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> 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. Wetland abuts Claylick Creek that flows northeast to Licking River that flows east to Muskingum River, a TNW.



# WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: <u>Crooksville-North Newark 138 kV Transmission Line</u>	City/County: <u>Licking County</u>	Sampling Date: <u>06/04/2020</u>
Applicant/Owner: <u>AEP</u>	State: <u>OH</u>	Sampling Point: <u>upl-jbl-200604-06</u>
Investigator(s): <u>AEH, JBL</u>	Section, Township, Range: <u>S12 T1N R11W</u>	

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none

Slope (%): 3 Lat: 39.99300 Long: -82.31835 Datum: NAD83

Soil Map Unit Name: Or - Orrville silt loam, 0 to 3 percent slopes, occasionally flooded 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>	<b>Is the Sampled Area within a Wetland?</b>	<b>Yes <u>      </u></b>	<b>No <u>  X  </u></b>
Hydric Soil Present?	Yes <u>      </u>	No <u>  X  </u>			
Wetland Hydrology Present?	Yes <u>      </u>	No <u>  X  </u>			
Remarks: Sample point Upland 088 point out to Wetland 085 on terrace of Claylick Creek about 20' west of wetland boundary near roadway embankment. Not a wetland point as no wetland criteria met.					

**VEGETATION** – Use scientific names of plants.

Tree Stratum	(Plot size: 30' )	Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
5.				
		=Total Cover		
Sapling/Shrub Stratum	(Plot size: 15' )			
1.				
2.				
3.				
4.				
5.				
		=Total Cover		
Herb Stratum	(Plot size: 5' )			
1. <i>Trifolium repens</i>		70	Yes	FACU
2. <i>Schedonorus arundinaceus</i>		20	No	FACU
3. <i>Carex frankii</i>		5	No	OBL
4. <i>Dactylis glomerata</i>		5	No	FACU
5. <i>Trifolium pratense</i>		2	No	FACU
6.				
7.				
8.				
9.				
10.				
		102	=Total Cover	
Woody Vine Stratum	(Plot size: 30' )			
1.				
2.				
		=Total Cover		

**Dominance Test worksheet:**

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	97	x 4 =	388
UPL species	0	x 5 =	0
Column Totals:	102 (A)		393 (B)
Prevalence Index = B/A =		3.85	

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators 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, dominance test is not > 50%, prevalence index is not ≤ 3.0.

[illegible]

## 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 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)		
<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> Water Table Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> Saturation Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: No hydrology indicators present.			

## Wetland 085

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/4/2020

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-jbl-20200604-06

0.09

acres

extends outside SA

6 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)

15.0 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

- |   |  |
|---|--|
| <input type="checkbox"/> ditch            | <input checked="" 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 checked="" type="checkbox"/> dredging                     |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other:                                  |

10.5 31.5

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 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 checked="" type="checkbox"/> farming               |
| <input type="checkbox"/> toxic pollutants                | <input type="checkbox"/> nutrient enrichment              |

31.5

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

**Wetland 085**

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/4/2020

Field Id:

w-jbl-20200604-06

**31.5**

subtotal this page

**0 31.5**

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 32.5**

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  
☐ 0 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

Modified Category 2

**32.5** GRAND TOTAL(max 100 pts)



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 085</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing North	

<b>Wetland 085</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 085</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing South	

<b>Wetland 085</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 085</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 2  Soil Pit	

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/05/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-200605-01  
 Investigator(s): AEH, JBL Section, Township, Range: S 12 T 1 N R 11 W

Landform (hillside, terrace, etc.): Lowland Local relief (concave, convex, none): none

Slope (%): 0 Lat: 39.994122 Long: -82.319202 Datum: NAD 83

Soil Map Unit Name: Or - Orrville silt loam, 0 to 3 percent slopes, occasionally flooded 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: Sample point in to PEM Wetland 086. Wetland extends to southwest outside study area, abuts intermittent Stream 095 that drains to southwest outside study area.	

### VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> 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)																
1.																					
2.																					
3.																					
4.																					
5.																					
		=Total Cover			<b>Prevalence Index worksheet:</b> <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>40</u></td> <td>x 2 = <u>80</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>15</u></td> <td>x 4 = <u>60</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>90</u> (A)</td> <td><u>225</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.50</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>40</u>	x 2 = <u>80</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>15</u>	x 4 = <u>60</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>90</u> (A)	<u>225</u> (B)	Prevalence Index = B/A = <u>2.50</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>10</u>	x 1 = <u>10</u>																				
FACW species <u>40</u>	x 2 = <u>80</u>																				
FAC species <u>25</u>	x 3 = <u>75</u>																				
FACU species <u>15</u>	x 4 = <u>60</u>																				
UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>90</u> (A)	<u>225</u> (B)																				
Prevalence Index = B/A = <u>2.50</u>																					
		=Total Cover																			
Sapling/Shrub Stratum	(Plot size: <u>15'</u> )																				
1.																					
2.																					
3.																					
4.																					
5.																					
		=Total Cover																			
Herb Stratum	(Plot size: <u>5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1.	<u>Persicaria pensylvanica</u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>																	
2.	<u>Phalaris arundinacea</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>																	
3.	<u>Trifolium pratense</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>																	
4.	<u>Juncus tenuis</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>																	
5.	<u>Eleocharis palustris</u>	<u>10</u>	<u>No</u>	<u>OBL</u>																	
6.	<u>Poa pratensis</u>	<u>10</u>	<u>No</u>	<u>FAC</u>																	
7.																					
8.																					
9.																					
10.																					
		90 =Total Cover																			
Woody Vine Stratum	(Plot size: <u>30'</u> )				<b>Hydrophytic Vegetation</b> Present? Yes <u>X</u> No <u>    </u>																
1.																					
2.																					
		=Total Cover																			
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.																					



Sampling Point: r-jbl-200605-C

HYDROLOGY				
<b>Wetland Hydrology Indicators:</b>				
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)		
<input checked="" type="checkbox"/> Surface Water (A1)	<input 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 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 type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)			
<b>Field Observations:</b>		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Surface Water Present?	Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>			Depth (inches): <input type="text" value="0.25"/>
Water Table Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			Depth (inches): <input type="text" value="0"/>
Saturation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			Depth (inches): <input type="text" value="0"/>
(includes capillary fringe)				
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 095 and concentration of precipitation in geomorphic position. Wetland abuts intermittent stream that flows west to Claylick Creek that flows north to Licking River that flows east to Muskingum River, a TNW.				

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/05/2020  
Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-200605-03  
Investigator(s): AEH, JBL Section, Township, Range: S 12 T 1 N R 11 W

Landform (hillside, terrace, etc.): flat

Slope (%): 6      Lat: 39.99380      Long: -82.31888      Datum: NAD 83

Soil Map Unit Name: CkC2 - Cincinnati silt loam, 6 to 12 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 <u>      </u>	No <u>  X  </u>	<b>Is the Sampled Area within a Wetland?</b>	<b>Yes <u>      </u></b>	<b>No <u>  X  </u></b>
Hydric Soil Present?	Yes <u>  X  </u>	No <u>      </u>			
Wetland Hydrology Present?	Yes <u>      </u>	No <u>  X  </u>			
Remarks: Sample point Upland 089 point out to Wetland 087 approximately 5' east of wetland boundary. Not a wetland point as hydrophytic vegetation and hydrology criteria not met.					

**VEGETATION** – Use scientific names of plants.

Tree Stratum	(Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
5.				
			=Total Cover	
Sapling/Shrub Stratum	(Plot size: 15')			
1.				
2.				
3.				
4.				
5.				
			=Total Cover	
Herb Stratum	(Plot size: 5')			
1. <i>Trifolium pratense</i>		40	Yes	FACU
2. <i>Persicaria pensylvanica</i>		20	Yes	FACW
3. <i>Poa pratensis</i>		15	No	FAC
4. <i>Schedonorus arundinaceus</i>		10	No	FACU
5. <i>Symplocarpus foetidus</i>		10	No	OBL
6.				
7.				
8.				
9.				
10.				
		95	=Total Cover	
Woody Vine Stratum	(Plot size: 30')			
1.				
2.				
			=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: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species 10	x 1 = 10
FACW species 20	x 2 = 40
FAC species 15	x 3 = 45
FACU species 50	x 4 = 200
UPL species 0	x 5 = 0
Column Totals: 95 (A)	295 (B)
Prevalence Index = B/A = 3.11	

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators 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, dominance test is not > 50%, prevalence index >3.0. Dominant species are FACW and FACU.

## SOIL

Sampling Point: 1-jbl-200605-

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 <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 3/1	100					Loamy/Clayey	
4-18	10YR 4/1	95	10YR 6/6	5	C	PL	Loamy/Clayey	Prominent redox concentrations

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

<b>Hydric Soil Indicators:</b> <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 checked="" 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 checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
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**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**      Yes ☒      No ☐

**Indicators for Problematic Hydric Soils<sup>3</sup>:**  
☐ Coast Prairie Redox (A16)  
☐ Iron-Manganese Masses (F12)  
☐ Red Parent Material (F21)  
☐ Very Shallow Dark Surface (F22)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators 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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 Hydric soil indicator present as low chroma/high value matrix with required redox concentrations in pore linings.

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>			
<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)		

<b>Field Observations:</b> 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): <u>      </u> Saturation Present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>      </u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 No hydrology indicators present.

## Wetland 086

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/5/2020

**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)

Field Id:

w-jbl-20200605-03

 acres  
extends outside SA**5** **7**

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** **19.0**

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 checked="" type="checkbox"/> dredging          |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other:                       |

**6.5** **25.5**

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 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 checked="" type="checkbox"/> woody debris removal | <input checked="" type="checkbox"/> farming               |
| <input type="checkbox"/> toxic pollutants                | <input type="checkbox"/> nutrient enrichment              |

**25.5**

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating



**Wetland 086**

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/5/2020

Field Id:

w-jbl-20200605-03

**25.5**

subtotal this page

**0 25.5**

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)

**0 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) 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

**25.5 GRAND TOTAL(max 100 pts)**

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 086</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing North	

<b>Wetland 086</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 086</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing South	

<b>Wetland 086</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing West	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 086</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 1  Soil Pit	



## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/05/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-200605-02  
 Investigator(s): AEH, JBL Section, Township, Range: S 12 T 1 N R 11 W

Landform (hillside, terrace, etc.): depressional Local relief (concave, convex, none): none

Slope (%): 0 Lat: 39.994627 Long: -82.31925 Datum: NAD 83

Soil Map Unit Name: Or - Orrville silt loam, 0 to 3 percent slopes, occasionally flooded NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present? Yes <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>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Sample point in to PEM Wetland 087, wetland is located within a cow pasture (atypical situation). Wetland fully delineated, abuts intermittent Stream 095 that drains to southwest outside study area.	

### 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>Eleocharis palustris</u>	<u>60</u>	<u>Yes</u>	<u>OBL</u>	
2.	<u>Poa pratensis</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	
3.	<u>Trifolium pratense</u>	<u>10</u>	<u>No</u>	<u>FACU</u>	
4.	<u>Persicaria pensylvanica</u>	<u>10</u>	<u>No</u>	<u>FACW</u>	
5.	<u>Phalaris arundinacea</u>	<u>10</u>	<u>No</u>	<u>FACW</u>	
6.	<u>Onoclea sensibilis</u>	<u>3</u>	<u>No</u>	<u>FACW</u>	
7.					
8.					
9.					
10.					
		<u>103</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: 1 (A)  
 Total Number of Dominant Species Across All Strata: 1 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**  

Total % Cover of:	Multiply by:
OBL species <u>60</u>	x 1 = <u>60</u>
FACW species <u>23</u>	x 2 = <u>46</u>
FAC species <u>10</u>	x 3 = <u>30</u>
FACU species <u>10</u>	x 4 = <u>40</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>103</u> (A)	<u>176</u> (B)
Prevalence Index = B/A = <u>1.71</u>	

**Hydrophytic Vegetation Indicators:**  
     1 - Rapid Test for Hydrophytic Vegetation  
X 2 - Dominance Test is >50%  
X 3 - Prevalence Index is ≤3.0<sup>1</sup>  
     4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
     Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators 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 indicators present as dominance test > 50%, dominant species is OBL. Vegetation is not compromised too much by grazing to preclude identification.

## SOIL

Sampling Point: r-jbl-200605-C

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 <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR 6/1	85	7.5YR 6/8	10	C	PL	Loamy/Clayey	Prominent redox concentrations
			7.5YR 4/6	5	D	M		

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

<b>Hydric Soil Indicators:</b> <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)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <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)  <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> 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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 Hydric soil indicator present as low chroma/high value depleted matrix.

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>			
<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 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)		

<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

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

Remarks:  
 One primary and multiple secondary hydrology indicators present. Primary sources of hydrology are overbank flow from intermittent stream 095 and concentration of precipitation in geomorphic position. Wetland abuts intermittent stream that flows west to Claylick Creek that flows north to Licking River that flows east to Muskingum River, a TNW.

## Upland 090

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/05/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-200605-01  
 Investigator(s): AEH, JBL Section, Township, Range: S 12 T 1 N R 11 W  
 Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none  
 Slope (%): 0 Lat: 39.99473 Long: -82.31928 Datum: NAD 83  
 Soil Map Unit Name: Se - Sebring silt loam NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present? Yes <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: Sample point Upland 090 is point out to Wetland 087 taken in cow pasture (atypical situation). 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	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</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>50.0%</u> (A/B)																
1.																					
2.																					
3.																					
4.																					
5.																					
		=Total Cover			<b>Prevalence Index worksheet:</b> <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>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>35</u></td> <td>x 3 = <u>105</u></td> </tr> <tr> <td>FACU species <u>80</u></td> <td>x 4 = <u>320</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>115</u> (A)</td> <td><u>425</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.70</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>35</u>	x 3 = <u>105</u>	FACU species <u>80</u>	x 4 = <u>320</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>115</u> (A)	<u>425</u> (B)	Prevalence Index = B/A = <u>3.70</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>0</u>	x 1 = <u>0</u>																				
FACW species <u>0</u>	x 2 = <u>0</u>																				
FAC species <u>35</u>	x 3 = <u>105</u>																				
FACU species <u>80</u>	x 4 = <u>320</u>																				
UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>115</u> (A)	<u>425</u> (B)																				
Prevalence Index = B/A = <u>3.70</u>																					
		=Total Cover																			
Sapling/Shrub Stratum	(Plot size: <u>15'</u> )																				
1.																					
2.																					
3.																					
4.																					
5.																					
		=Total Cover																			
Herb Stratum	(Plot size: <u>5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1.	<u>Trifolium pratense</u>	<u>40</u>	<u>Yes</u>	<u>FACU</u>																	
2.	<u>Poa pratensis</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>																	
3.	<u>Solidago canadensis</u>	<u>15</u>	<u>No</u>	<u>FACU</u>																	
4.	<u>Trifolium repens</u>	<u>15</u>	<u>No</u>	<u>FACU</u>																	
5.	<u>Juncus tenuis</u>	<u>15</u>	<u>No</u>	<u>FAC</u>																	
6.	<u>Schedonorus arundinaceus</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
7.																					
8.																					
9.																					
10.																					
		115 =Total Cover																			
Woody Vine Stratum	(Plot size: <u>30'</u> )				<b>Hydrophytic Vegetation Present? Yes <u>    </u> No <u>X</u></b>																
1.																					
2.																					
		=Total Cover																			

Remarks: (Include photo numbers here or on a separate sheet.)  
 Ny hydrophytic vegetation indicators present, dominance test is not > 50%, prevalence index is < 3.0. Dominanat species are FAC and FACU.  
 Vegetation not problematic for identification, not significantly different from upland vegetation in adjacent non-grazed locations.

**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 <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR 4/4	100					Loamy/Clayey	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)  
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)  
☐ Black Histic (A3) ☐ Stripped Matrix (S6)  
☐ Hydrogen Sulfide (A4) ☐ Dark Surface (S7)  
☐ Stratified Layers (A5) ☐ Loamy Mucky Mineral (F1)  
☐ 2 cm Muck (A10) ☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3)  
☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6)  
☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7)  
☐ 5 cm Mucky Peat or Peat (S3) ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ Coast Prairie Redox (A16)  
☐ Iron-Manganese Masses (F12)  
☐ Red Parent Material (F21)  
☐ Very Shallow Dark Surface (F22)  
☐ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes \_\_\_\_\_ No X

**Remarks:**

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](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)

- ☐ Surface Water (A1) ☐ Water-Stained Leaves (B9)  
☐ High Water Table (A2) ☐ Aquatic Fauna (B13)  
☐ Saturation (A3) ☐ True Aquatic Plants (B14)  
☐ Water Marks (B1) ☐ Hydrogen Sulfide Odor (C1)  
☐ Sediment Deposits (B2) ☐ Oxidized Rhizospheres on Living Roots (C3)  
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)  
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils (C6)  
☐ Iron Deposits (B5) ☐ Thin Muck Surface (C7)  
☐ Inundation Visible on Aerial Imagery (B7) ☐ Gauge or Well Data (D9)  
☐ Sparsely Vegetated Concave Surface (B8) ☐ 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): \_\_\_\_\_  
 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.



## Wetland 087

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/5/2020

**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-jbl-20200605-02

0.09 acres

**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)

**13.0 18.0**

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 checked="" type="checkbox"/> dredging          |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other:                       |

**6.5 24.5**

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 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 checked="" type="checkbox"/> woody debris removal | <input checked="" type="checkbox"/> farming               |
| <input type="checkbox"/> toxic pollutants                | <input type="checkbox"/> nutrient enrichment              |

**24.5**

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

## Wetland 087

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/5/2020

Field Id:

w-jbl-20200605-02

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)

0 24.5

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) 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

24.5 GRAND TOTAL(max 100 pts)

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 087</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing North	

<b>Wetland 087</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 087</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing South	

<b>Wetland 087</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 087</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 1  Soil Pit	

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/05/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-200605-01a  
 Investigator(s): AEH, JBL Section, Township, Range: S 9 T 1 N R 11 W

Landform (hillside, terrace, etc.): depressional Local relief (concave, convex, none): none

Slope (%): 0 Lat: 40.000197 Long: -82.321315 Datum: NAD 83

Soil Map Unit Name: ChC2 - - Chili loam, 6 to 12 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>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Sample point Wetland 088a, PEM component of Wetland 088 a PEM/PSS wetland complex. Wetland fully delineated in drainage swale leading to and abutting intermittent Stream 096, draining to west outside of study area.	

### VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> 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>    </u>																					
2. <u>    </u>																					
3. <u>    </u>																					
4. <u>    </u>																					
5. <u>    </u>																					
		=Total Cover																			
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15'</u> )				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 40%;">Total % Cover of:</th> <th style="width: 60%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>65</u></td> <td>x 1 = <u>65</u></td> </tr> <tr> <td>FACW species <u>37</u></td> <td>x 2 = <u>74</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>2</u></td> <td>x 4 = <u>8</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>119</u> (A)</td> <td><u>192</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>1.61</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>65</u>	x 1 = <u>65</u>	FACW species <u>37</u>	x 2 = <u>74</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>2</u>	x 4 = <u>8</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>119</u> (A)	<u>192</u> (B)	Prevalence Index = B/A = <u>1.61</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>65</u>	x 1 = <u>65</u>																				
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Column Totals: <u>119</u> (A)	<u>192</u> (B)																				
Prevalence Index = B/A = <u>1.61</u>																					
1. <u>Salix nigra</u>		<u>10</u>	<u>Yes</u>	<u>OBL</u>																	
2. <u>    </u>																					
3. <u>    </u>																					
4. <u>    </u>																					
5. <u>    </u>																					
		<u>10</u> =Total Cover																			
<u>Herb Stratum</u>	(Plot size: <u>5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Carex frankii</u>		<u>40</u>	<u>Yes</u>	<u>OBL</u>																	
2. <u>Carex crinita</u>		<u>15</u>	<u>Yes</u>	<u>OBL</u>																	
3. <u>Carex annectens</u>		<u>15</u>	<u>Yes</u>	<u>FACW</u>																	
4. <u>Poa pratensis</u>		<u>15</u>	<u>Yes</u>	<u>FAC</u>																	
5. <u>Carex scoparia</u>		<u>10</u>	<u>No</u>	<u>FACW</u>																	
6. <u>Onoclea sensibilis</u>		<u>10</u>	<u>No</u>	<u>FACW</u>																	
7. <u>Impatiens capensis</u>		<u>2</u>	<u>No</u>	<u>FACW</u>																	
8. <u>Galium aparine</u>		<u>2</u>	<u>No</u>	<u>FACU</u>																	
9. <u>    </u>																					
10. <u>    </u>																					
		<u>109</u> =Total Cover																			
<u>Woody Vine Stratum</u>	(Plot size: <u>30'</u> )				<b>Hydrophytic Vegetation Present?</b> 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 indicators present as dominance test > 50%, dominant species are OBL, FACW and FAC.

Sampling Point: -jbl-200605-0

HYDROLOGY				
<b>Wetland Hydrology Indicators:</b>				
Primary Indicators (minimum of one is required; check all that apply)			Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input 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 checked="" 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 type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)			
<b>Field Observations:</b>			<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <input type="text" value="0"/>		
Water Table Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <input type="text" value="6"/>		
Saturation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <input type="text" value="0"/>		
(includes capillary fringe)				
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 concentration of precipitation and surface runoff in geomorphic position and overbank flow from intermittent Stream 096, that flows to southwest to Claylick Creek that flows north to Licking River that flows east to Muskingum River, a TNW.				

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/05/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-200605-01b  
 Investigator(s): AEH, JBL Section, Township, Range: S 9 T 1 N R 11 W

Landform (hillside, terrace, etc.): depressional Local relief (concave, convex, none): none

Slope (%): 0 Lat: 40.000107 Long: -82.321345 Datum: NAD 83

Soil Map Unit Name: ChC2 - Chili loam, 6 to 12 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>	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: Sample point Wetland 088b, PSS component of Wetland 088, a PEM/PSS wetland complex. Wetland fully delineated in drainage swale leading to and abutting intermittent Stream 096, draining to west outside of study area.	

## VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
1.																					
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5.																					
		=Total Cover																			
Sapling/Shrub Stratum	(Plot size: <u>15'</u> )				<b>Prevalence Index worksheet:</b> <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>115</u></td> <td>x 1 = <u>115</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>155</u> (A)</td> <td><u>220</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>1.42</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>115</u>	x 1 = <u>115</u>	FACW species <u>20</u>	x 2 = <u>40</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>155</u> (A)	<u>220</u> (B)	Prevalence Index = B/A = <u>1.42</u>	
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OBL species <u>115</u>	x 1 = <u>115</u>																				
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Column Totals: <u>155</u> (A)	<u>220</u> (B)																				
Prevalence Index = B/A = <u>1.42</u>																					
1. <u>Salix nigra</u>		<u>40</u>	<u>Yes</u>	<u>OBL</u>																	
2.																					
3.																					
4.																					
5.																					
		<u>40</u> =Total Cover																			
Herb Stratum	(Plot size: <u>5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Carex crinita</u>		<u>45</u>	<u>Yes</u>	<u>OBL</u>																	
2. <u>Impatiens capensis</u>		<u>20</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Carex frankii</u>		<u>15</u>	<u>No</u>	<u>OBL</u>																	
4. <u>Salix nigra</u>		<u>15</u>	<u>No</u>	<u>OBL</u>																	
5. <u>Poa pratensis</u>		<u>15</u>	<u>No</u>	<u>FAC</u>																	
6. <u>Solidago canadensis</u>		<u>5</u>	<u>No</u>	<u>FACU</u>																	
7.																					
8.																					
9.																					
10.																					
		<u>115</u> =Total Cover																			
Woody Vine Stratum	(Plot size: <u>30'</u> )				<b>Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u></b>																
1.																					
2.																					
		=Total Cover																			
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation indicators present as Rapid Test, dominant species are OBL and FACW																					



## SOIL

HYDROLOGY				
<b>Wetland Hydrology Indicators:</b>				
<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 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 checked="" 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 type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)			
<b>Field Observations:</b>				
Surface Water Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text" value="0"/>
Water Table Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Depth (inches):	<input type="text" value="4"/>
Saturation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Depth (inches):	<input type="text" value="0"/>
(includes capillary fringe)			<b>Wetland Hydrology Present?</b> 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 concentration of precipitation and surface runoff in geomorphic position and overbank flow from intermittent Stream 096, that flows to southwest to Claylick Creek that flows north to Licking River that flows east to Muskingum River, a TNW.				

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/05/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-200605-01  
 Investigator(s): AEH, JBL Section, Township, Range: S 9 T 1 N R 11 W

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none

Slope (%): 0 Lat: 40.00024 Long: -82.32139 Datum: NAD 83

Soil Map Unit Name: ChC2 - Chili loam, 6 to 12 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>    </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>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u>
Remarks: Sample point Upland 091 point out to Wetland 088, about 10' west of 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	<b>Dominance Test worksheet:</b>  Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</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>40.0%</u> (A/B)																
1. <u>    </u>																					
2. <u>    </u>																					
3. <u>    </u>																					
4. <u>    </u>																					
5. <u>    </u>																					
		=Total Cover																			
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )																					
1. <u>Morus alba</u>		15	Yes	FAC	<b>Prevalence Index worksheet:</b>  <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>x 2 = <u>30</u></td> </tr> <tr> <td>FAC species <u>40</u></td> <td>x 3 = <u>120</u></td> </tr> <tr> <td>FACU species <u>70</u></td> <td>x 4 = <u>280</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>125</u> (A)</td> <td><u>430</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.44</u></td> </tr> </table>	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>70</u>	x 4 = <u>280</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>125</u> (A)	<u>430</u> (B)	Prevalence Index = B/A = <u>3.44</u>	
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>70</u>	x 4 = <u>280</u>																				
UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>125</u> (A)	<u>430</u> (B)																				
Prevalence Index = B/A = <u>3.44</u>																					
2. <u>Rosa multiflora</u>		5	Yes	FACU																	
3. <u>    </u>																					
4. <u>    </u>																					
5. <u>    </u>																					
		20 =Total Cover																			
<b>Herb Stratum</b> (Plot size: <u>5'</u> )																					
1. <u>Trifolium pratense</u>		40	Yes	FACU	<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Schedonorus arundinaceus</u>		15	Yes	FACU																	
3. <u>Poa pratensis</u>		15	Yes	FAC																	
4. <u>Rosa multiflora</u>		10	No	FACU																	
5. <u>Carex annectens</u>		10	No	FACW																	
6. <u>Juncus tenuis</u>		10	No	FAC																	
7. <u>Dichanthelium clandestinum</u>		5	No	FACW																	
8. <u>    </u>																					
9. <u>    </u>																					
10. <u>    </u>																					
		105 =Total Cover																			
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )																					
1. <u>    </u>					<b>Hydrophytic Vegetation Present?</b> Yes <u>    </u> No <u>X</u>																
2. <u>    </u>																					
		=Total Cover																			
Remarks: (Include photo numbers here or on a separate sheet.) No hydrophytic vegetation indicators present as dominance test is not > 50%, prevalence index > 3.0. Dominant species are FAC and FACU.																					

[illegible]

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 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)		
<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> Water Table Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> Saturation Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: No hydrology indicators present.			

## Wetland 088ab

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/5/2020

**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)

Field Id:

w-jbl-20200605-01

0.30 acres

extends outside SA

**9** **11**

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)

**16.5** **27.5**

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 checked="" type="checkbox"/> dredging          |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other:                       |

**13** **40.5**

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 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              |

**40.5**

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating



**Wetland 088ab**

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/5/2020

Field Id:

w-jbl-20200605-01

**40.5**

subtotal this page

**0 40.5**

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)

**7 47.5**

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.

- ☒ Vegetated hummocks/tussocks  
☐ 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

Category 2

**47.5 GRAND TOTAL(max 100 pts)**

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 088a</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing North	

<b>Wetland 088a</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 088a</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing South	

<b>Wetland 088a</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 088a</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PEM wetland  Category 2  Soil Pit	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 088b</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PSS wetland  Category 2  Facing North	

<b>Wetland 088b</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PSS wetland  Category  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 088b</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PSS wetland  Category 2  Facing South	

<b>Wetland 088b</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PSS wetland  Category 2  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 088b</b>	
<b>Date:</b> June 5, 2020	
<b>Description:</b>  PSS wetland  Category 2  Soil Pit	

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/04/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-200604-05  
 Investigator(s): AEH, JBL Section, Township, Range: S8 T1N R11W

Landform (hillside, terrace, etc.): lowland Local relief (concave, convex, none): concave

Slope (%): 0 Lat: 40.00847 Long: -82.329807 Datum: NAD 83

Soil Map Unit Name: Me Melvin 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 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>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Sample point in to PEM Wetland 089, depression in powerline ROW on both sides of intermittent Stream 198. Wetland fully delineated.	

### VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
1. <u>    </u>																					
2. <u>    </u>																					
3. <u>    </u>																					
4. <u>    </u>																					
5. <u>    </u>																					
		=Total Cover																			
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )					<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>15</u></td> <td>x 1 = <u>15</u></td> </tr> <tr> <td>FACW species <u>90</u></td> <td>x 2 = <u>180</u></td> </tr> <tr> <td>FAC species <u>3</u></td> <td>x 3 = <u>9</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>118</u> (A)</td> <td><u>244</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.07</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>15</u>	x 1 = <u>15</u>	FACW species <u>90</u>	x 2 = <u>180</u>	FAC species <u>3</u>	x 3 = <u>9</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>118</u> (A)	<u>244</u> (B)	Prevalence Index = B/A = <u>2.07</u>	
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UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>118</u> (A)	<u>244</u> (B)																				
Prevalence Index = B/A = <u>2.07</u>																					
1. <u>Salix nigra</u>		<u>5</u>	<u>Yes</u>	<u>OBL</u>																	
2. <u>    </u>																					
3. <u>    </u>																					
4. <u>    </u>																					
5. <u>    </u>																					
		=Total Cover																			
<b>Herb Stratum</b> (Plot size: <u>5'</u> )					<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Onoclea sensibilis</u>		<u>35</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Impatiens capensis</u>		<u>25</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Dichanthelium clandestinum</u>		<u>15</u>	<u>No</u>	<u>FACW</u>																	
4. <u>Carex annectens</u>		<u>10</u>	<u>No</u>	<u>FACW</u>																	
5. <u>Carex scoparia</u>		<u>5</u>	<u>No</u>	<u>FACW</u>																	
6. <u>Solidago canadensis</u>		<u>5</u>	<u>No</u>	<u>FACU</u>																	
7. <u>Juncus effusus</u>		<u>5</u>	<u>No</u>	<u>OBL</u>																	
8. <u>Carex crinita</u>		<u>5</u>	<u>No</u>	<u>OBL</u>																	
9. <u>Asclepias syriaca</u>		<u>5</u>	<u>No</u>	<u>FACU</u>																	
10. <u>Equisetum arvense</u>		<u>3</u>	<u>No</u>	<u>FAC</u>																	
		=Total Cover																			
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )					<b>Hydrophytic Vegetation Present?</b> 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 rapid test, dominant species is FACW.																					



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 <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR 4/1	95	10YR 6/6	5	C	PL	Loamy/Clayey	Prominent redox concentrations
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.							<sup>2</sup> Location: PL=Pore Lining, M=Matrix.	
<b>Hydric Soil Indicators:</b>							<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
___ Histosol (A1) _____ Sandy Gleyed Matrix (S4)						___ ? Coast Prairie Redox (A16)		
___ Histic Epipedon (A2) _____ Sandy Redox (S5)						___ Iron-Manganese Masses (F12)		
___ Black Histic (A3) _____ Stripped Matrix (S6)						___ Red Parent Material (F21)		
___ Hydrogen Sulfide (A4) _____ Dark Surface (S7)						___ Very Shallow Dark Surface (F22)		
___ Stratified Layers (A5) _____ Loamy Mucky Mineral (F1)						___ Other (Explain in Remarks)		
___ 2 cm Muck (A10) _____ Loamy Gleyed Matrix (F2)								
___ Depleted Below Dark Surface (A11) ___ X Depleted Matrix (F3)								
___ Thick Dark Surface (A12) _____ Redox Dark Surface (F6)								
___ Sandy Mucky Mineral (S1) _____ Depleted Dark Surface (F7)								
___ 5 cm Mucky Peat or Peat (S3) _____ Redox Depressions (F8)								
<b>Restrictive Layer (if observed):</b>								
Type: _____								
Depth (inches): _____								
<b>Hydric Soil Present?</b>							<b>Yes</b> __X__ <b>No</b> ____	
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. ( <a href="https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nracs142p2_053171.pdf">https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nracs142p2_053171.pdf</a> ) Hydric soil indicator present as low chroma/high value depleted matrix with required prominent redox concentrations in pore linings.								
<b>HYDROLOGY</b>								
<b>Wetland Hydrology Indicators:</b>								
<b>Primary Indicators (minimum of one is required; check all that apply)</b>						<b>Secondary Indicators (minimum of two required)</b>		
___ Surface Water (A1)			___ Water-Stained Leaves (B9)			___ Surface Soil Cracks (B6)		
___ High Water Table (A2)			___ Aquatic Fauna (B13)			___ x Drainage Patterns (B10)		
___ Saturation (A3)			___ True Aquatic Plants (B14)			___ Dry-Season Water Table (C2)		
___ Water Marks (B1)			___ Hydrogen Sulfide Odor (C1)			___ Crayfish Burrows (C8)		
___ Sediment Deposits (B2)			___ x Oxidized Rhizospheres on Living Roots (C3)			___ Saturation Visible on Aerial Imagery (C9)		
x Drift Deposits (B3)			___ Presence of Reduced Iron (C4)			___ Stunted or Stressed Plants (D1)		
___ Algal Mat or Crust (B4)			___ Recent Iron Reduction in Tilled Soils (C6)			___ x Geomorphic Position (D2)		
___ Iron Deposits (B5)			___ Thin Muck Surface (C7)			___ X FAC-Neutral Test (D5)		
___ Inundation Visible on Aerial Imagery (B7)			___ Gauge or Well Data (D9)					
___ Sparsely Vegetated Concave Surface (B8)			___ Other (Explain in Remarks)					
<b>Field Observations:</b>								
Surface Water Present? Yes ____ No _x_ Depth (inches): ____								
Water Table Present? Yes ____ No _x_ Depth (inches): ____								
Saturation Present? Yes ____ No _x_ Depth (inches): ____		(includes capillary fringe)				<b>Wetland Hydrology Present?      Yes</b> __X__ <b>No</b> ____		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								
Remarks: Multiple primary and secondary hydrology indicators present. Wetland abuts intermittent Stream 098 that flows west to Claylick Creek that flows northeast to Licking River that flows east to Muskingum River, a TNW.								

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/04/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-200604-04  
 Investigator(s): AEH, JBL Section, Township, Range: S8 T1N R11W

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none

Slope (%): 2 Lat: 40.00838 Long: -82.32970 Datum: NAD83

Soil Map Unit Name: Me - Melvin 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 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>X</u> No <u>    </u>	
Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	
Remarks: Sample point Upland 092, point out to Wetland 089 about 10 feet south of wetland boundary. Not a wetland point as hydrophytic vegetation and hydrology criteria not met.	

## VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</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> )				<b>Prevalence Index worksheet:</b> <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>5</u></td> <td>x 1 = <u>5</u></td> </tr> <tr> <td>FACW species <u>17</u></td> <td>x 2 = <u>34</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>120</u></td> <td>x 4 = <u>480</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>142</u> (A)</td> <td><u>519</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.65</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>5</u>	x 1 = <u>5</u>	FACW species <u>17</u>	x 2 = <u>34</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>120</u>	x 4 = <u>480</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>142</u> (A)	<u>519</u> (B)	Prevalence Index = B/A = <u>3.65</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>5</u>	x 1 = <u>5</u>																				
FACW species <u>17</u>	x 2 = <u>34</u>																				
FAC species <u>0</u>	x 3 = <u>0</u>																				
FACU species <u>120</u>	x 4 = <u>480</u>																				
UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>142</u> (A)	<u>519</u> (B)																				
Prevalence Index = B/A = <u>3.65</u>																					
1. <u>Quercus alba</u>		<u>5</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>    </u>																					
3. <u>    </u>																					
4. <u>    </u>																					
5. <u>    </u>																					
		=Total Cover																			
Herb Stratum	(Plot size: <u>5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Schedonorus arundinaceus</u>		<u>60</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Rosa multiflora</u>		<u>20</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Parthenocissus quinquefolia</u>		<u>15</u>	<u>No</u>	<u>FACU</u>																	
4. <u>Asclepias syriaca</u>		<u>10</u>	<u>No</u>	<u>FACU</u>																	
5. <u>Onoclea sensibilis</u>		<u>10</u>	<u>No</u>	<u>FACW</u>																	
6. <u>Solidago canadensis</u>		<u>10</u>	<u>No</u>	<u>FACU</u>																	
7. <u>Carex annectens</u>		<u>5</u>	<u>No</u>	<u>FACW</u>																	
8. <u>Juncus effusus</u>		<u>5</u>	<u>No</u>	<u>OBL</u>																	
9. <u>Dichanthelium clandestinum</u>		<u>2</u>	<u>No</u>	<u>FACW</u>																	
		=Total Cover																			
Woody Vine Stratum	(Plot size: <u>30'</u> )				<b>Hydrophytic Vegetation Present? Yes <u>    </u> No <u>X</u></b>																
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 is not > 50%, prevalence index is not <= 3.0.																					

HYDROLOGY			
<b>Wetland Hydrology Indicators:</b>			
<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)		
<b>Field Observations:</b>			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
(includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			
No hydrology indicators present.			

## Wetland 089

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/4/2020

Field Id:

w-jbl-20200604-05

1	1
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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)

0.21 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)

19.5	28.5
------	------

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 type="checkbox"/> ditch            | <input checked="" 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 checked="" type="checkbox"/> dredging                     |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other:                                  |

10.5	39
------	----

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 checked="" type="checkbox"/> woody debris removal | <input checked="" type="checkbox"/> farming               |
| <input type="checkbox"/> toxic pollutants                | <input type="checkbox"/> nutrient enrichment              |

39
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subtotal this page ORAM v. 5.0 Field Form Quantitative Rating



**Wetland 089**

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/4/2020

Field Id:

w-jbl-20200604-05

39

subtotal this page

0

39

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)

6

45

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.

- ☒ 1 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 2

45

GRAND TOTAL(max 100 pts)

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 089</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing North	

<b>Wetland 089</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 089</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b> PEM wetland Category 2 Facing South	

<b>Wetland 089</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b> PEM wetland Category 2 Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 089</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 2  Soil Pit	



## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/03/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-200603-07  
 Investigator(s): AEH, JBL Section, Township, Range: S8 T1N R11W

Landform (hillside, terrace, etc.): Swale Local relief (concave, convex, none): Concave

Slope (%): 0 Lat: 40.013961 Long: -82.336318 Datum: NAD 83

Soil Map Unit Name: HoD2 - Homewood silt loam, 12 to 18 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>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Sample point w-jbl-20200603-07 is point in to PEM Wetland 090 in valley by roadway. Wetland fully delineated, drains to south through woodlot.	

### VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																																								
1.																																													
2.																																													
3.																																													
4.																																													
5.																																													
		=Total Cover																																											
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )																																													
1.	<u>Rosa multiflora</u>	<u>3</u>	<u>No</u>	<u>FACU</u>	<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Total % Cover of:</th> <th style="width: 10%;"></th> <th style="width: 10%;">Multiply by:</th> <th style="width: 10%;"></th> <th style="width: 10%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td><u>60</u></td> <td>x 1 =</td> <td><u>60</u></td> <td></td> </tr> <tr> <td>FACW species</td> <td><u>30</u></td> <td>x 2 =</td> <td><u>60</u></td> <td></td> </tr> <tr> <td>FAC species</td> <td><u>0</u></td> <td>x 3 =</td> <td><u>0</u></td> <td></td> </tr> <tr> <td>FACU species</td> <td><u>3</u></td> <td>x 4 =</td> <td><u>12</u></td> <td></td> </tr> <tr> <td>UPL species</td> <td><u>0</u></td> <td>x 5 =</td> <td><u>0</u></td> <td></td> </tr> <tr> <td>Column Totals:</td> <td><u>93</u></td> <td>(A)</td> <td><u>132</u></td> <td>(B)</td> </tr> <tr> <td colspan="5">Prevalence Index = B/A = <u>1.42</u></td> </tr> </tbody> </table>	Total % Cover of:		Multiply by:			OBL species	<u>60</u>	x 1 =	<u>60</u>		FACW species	<u>30</u>	x 2 =	<u>60</u>		FAC species	<u>0</u>	x 3 =	<u>0</u>		FACU species	<u>3</u>	x 4 =	<u>12</u>		UPL species	<u>0</u>	x 5 =	<u>0</u>		Column Totals:	<u>93</u>	(A)	<u>132</u>	(B)	Prevalence Index = B/A = <u>1.42</u>				
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4.																																													
5.																																													
		=Total Cover																																											
<b>Herb Stratum</b> (Plot size: <u>5'</u> )																																													
1.	<u>Leersia oryzoides</u>	<u>35</u>	<u>Yes</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																								
2.	<u>Juncus effusus</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>																																									
3.	<u>Onoclea sensibilis</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>																																									
4.	<u>Impatiens capensis</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																																									
5.	<u>Scirpus atrovirens</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																																									
6.																																													
7.																																													
8.																																													
9.																																													
10.																																													
		=Total Cover																																											
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )																																													
1.					<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>    </u>																																								
2.																																													
		=Total Cover																																											

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

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

## SOIL

Sampling Point: r-jbl-200603-C

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 <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR 4/1	95	10YR 6/8	5	C	PL	Loamy/Clayey	Prominent redox concentrations

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

<b>Hydric Soil Indicators:</b> <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)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <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)  <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 Hydric soil indicator present as low chroma/high value matrix with prominent redox concentrations in pore linings.

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>			
<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 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)		

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> 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 in geomorphic position. Wetland drains to south by overland sheet flow, no downstream features identified, potentially isolated.

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138kV Transmission Line City/County: Licking County Sampling Date: 06/03/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-200603-07  
 Investigator(s): AEH, JBL Section, Township, Range: S8 T1N R11W

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): concave

Slope (%): 10 Lat: 40.013947 Long: -82.33618 Datum: NAD 83

Soil Map Unit Name: BrD - Brownsville channery silt loam, 12 to 18 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: Sample point Upland 093 (upl-jbl-20200603-07) is point out to Wetland 090, about 20 feet east of wetland in open field. 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	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</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>40.0%</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> )				<b>Prevalence Index worksheet:</b> <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>12</u></td> <td>x 3 = <u>36</u></td> </tr> <tr> <td>FACU species <u>78</u></td> <td>x 4 = <u>312</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>120</u> (A)</td> <td><u>408</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.40</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>12</u>	x 3 = <u>36</u>	FACU species <u>78</u>	x 4 = <u>312</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>120</u> (A)	<u>408</u> (B)	Prevalence Index = B/A = <u>3.40</u>	
Total % Cover of:	Multiply by:																				
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Column Totals: <u>120</u> (A)	<u>408</u> (B)																				
Prevalence Index = B/A = <u>3.40</u>																					
1. <u>Rosa multiflora</u>		<u>15</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Cornus drummondii</u>		<u>10</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u>    </u>																					
4. <u>    </u>																					
5. <u>    </u>																					
		<u>25</u> =Total Cover																			
Herb Stratum	(Plot size: <u>5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Solidago canadensis</u>		<u>20</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Dichanthelium clandestinum</u>		<u>20</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Bromus inermis</u>		<u>15</u>	<u>Yes</u>	<u>FACU</u>																	
4. <u>Carex scoparia</u>		<u>10</u>	<u>No</u>	<u>FACW</u>																	
5. <u>Asclepias syriaca</u>		<u>10</u>	<u>No</u>	<u>FACU</u>																	
6. <u>Parthenocissus quinquefolia</u>		<u>5</u>	<u>No</u>	<u>FACU</u>																	
7. <u>Dipsacus fullonum</u>		<u>5</u>	<u>No</u>	<u>FACU</u>																	
8. <u>Fallopia convolvulus</u>		<u>5</u>	<u>No</u>	<u>FACU</u>																	
9. <u>Sanicula canadensis</u>		<u>3</u>	<u>No</u>	<u>FACU</u>																	
10. <u>Rumex crispus</u>		<u>2</u>	<u>No</u>	<u>FAC</u>																	
		<u>95</u> =Total Cover																			
Woody Vine Stratum	(Plot size: <u>30'</u> )				<b>Hydrophytic Vegetation</b> Present? Yes <u>    </u> No <u>X</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 is not > 50%, dominant species are FACW and FACU, prevalence index > 3.0.																					

## SOIL

HYDROLOGY				
<b>Wetland Hydrology Indicators:</b>				
<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)			
<b>Field Observations:</b>				
Surface Water Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text" value="0"/>
Water Table Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text"/>
Saturation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text"/>
(includes capillary fringe)			<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
Remarks:				
No hydrology indicators present.				



## Wetland 090

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/3/2020

Field Id:

w-jbl-20200603-07

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)

0.09 acres

7 7

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 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 type="checkbox"/> ditch            | <input checked="" type="checkbox"/> point source (nonstormwater) |
| <input checked="" type="checkbox"/> tile  | <input checked="" 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:                                  |

9 23

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 checked="" type="checkbox"/> woody debris removal | <input checked="" type="checkbox"/> farming               |
| <input type="checkbox"/> toxic pollutants                | <input type="checkbox"/> nutrient enrichment              |

23

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

**Wetland 090**

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/3/2020

Field Id:

w-jbl-20200603-07

23

subtotal this page

0

23

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

25

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

25 GRAND TOTAL(max 100 pts)

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 090</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing North	

<b>Wetland 090</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing East	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 090</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing South	

<b>Wetland 090</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 090</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 1  Soil Pit	

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/03/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-200603-06  
 Investigator(s): AEH, JBL Section, Township, Range: Q NW T1N R11W

Landform (hillside, terrace, etc.): Lowland Local relief (concave, convex, none): none

Slope (%): 1 Lat: 40.01524 Long: -82.33796 Datum: NAD 83

Soil Map Unit Name: BrD - Brownsville channery silt loam, 12 to 18 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> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Sample point w-jbl-20200603-06 point in to PEM Wetland 091, along roadside within lowspot. Wetland fully delineated, drains to west by overland sheet flow, 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>Juncus effusus</u>	<u>40</u>	<u>Yes</u>	<u>OBL</u>	
2.	<u>Juncus tenuis</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>	
3.	<u>Carex scoparia</u>	<u>20</u>	<u>No</u>	<u>FACW</u>	
4.	<u>Scirpus atrovirens</u>	<u>15</u>	<u>No</u>	<u>OBL</u>	
5.	<u>Trifolium repens</u>	<u>10</u>	<u>No</u>	<u>FACU</u>	
6.	<u>Trifolium pratense</u>	<u>2</u>	<u>No</u>	<u>FACU</u>	
7.	<u>Onoclea sensibilis</u>	<u>2</u>	<u>No</u>	<u>FACW</u>	
8.					
9.					
10.					
		<u>119</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>55</u>	x 1 = <u>55</u>
FACW species <u>22</u>	x 2 = <u>44</u>
FAC species <u>30</u>	x 3 = <u>90</u>
FACU species <u>12</u>	x 4 = <u>48</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>119</u> (A)	<u>237</u> (B)
Prevalence Index = B/A = <u>1.99</u>	

**Hydrophytic Vegetation Indicators:**  
     1 - Rapid Test for Hydrophytic Vegetation  
X 2 - Dominance Test is >50%  
X 3 - Prevalence Index is ≤3.0<sup>1</sup>  
     4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
     Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators 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 and FAC.

<b>Profile Description:</b> (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
<b>Depth</b>	<b>Matrix</b>		<b>Redox Features</b>				<b>Texture</b>	<b>Remarks</b>
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR 4/1	90	10YR 5/6	10	C	PL	Loamy/Clayey	Prominent redox concentrations
6-18	10YR 5/1	90	10YR 5/6	10	C	PL	Loamy/Clayey	Prominent redox concentrations

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

<b>Hydric Soil Indicators:</b> <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)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <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)  <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 Hydric soil indicator present as low chroma/high value matrix.

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 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 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)			
<b>Field Observations:</b>		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			Depth (inches): <input type="text" value="0"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			Depth (inches): <input type="text"/>
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			Depth (inches): <input type="text"/>
(includes capillary fringe)				
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
Remarks:				
Two secondary hydrology indicators present. Primary source of hydrology is concentration of precipitation and surface runoff in geomorphic position. Wetland drains to west by overland sheet flow towards ephemeral Stream 100, that flows north to Claylick Creek that drains northeast to Licking River that drains east to Muskingum River, a TNW. Potentially isolated.				

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV transmission line City/County: Licking County Sampling Date: 06/03/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-200603-06  
 Investigator(s): AEH, JBL Section, Township, Range: Q NW T1N R11W

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none

Slope (%): \_\_\_\_\_ Lat: 39.86204 Long: -82.209408 Datum: NAD 83

Soil Map Unit Name: BrD - Brownsville channery silt loam, 12 to 18 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 _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Sample point Upland 094 (upl-jbl-20200603-06) is point out to Wetland 091, about 5 feet east of wetland boundary in pasture. Not a wetland point as no criteria met.	

## VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)																
1. _____																					
2. _____																					
3. _____																					
4. _____																					
5. _____																					
		=Total Cover			<b>Prevalence Index worksheet:</b> <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>2</u></td> <td>x 1 = <u>2</u></td> </tr> <tr> <td>FACW species <u>17</u></td> <td>x 2 = <u>34</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>60</u></td> <td>x 4 = <u>240</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>104</u> (A)</td> <td><u>351</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.38</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>2</u>	x 1 = <u>2</u>	FACW species <u>17</u>	x 2 = <u>34</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>60</u>	x 4 = <u>240</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>104</u> (A)	<u>351</u> (B)	Prevalence Index = B/A = <u>3.38</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>2</u>	x 1 = <u>2</u>																				
FACW species <u>17</u>	x 2 = <u>34</u>																				
FAC species <u>25</u>	x 3 = <u>75</u>																				
FACU species <u>60</u>	x 4 = <u>240</u>																				
UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>104</u> (A)	<u>351</u> (B)																				
Prevalence Index = B/A = <u>3.38</u>																					
Sapling/Shrub Stratum (Plot size: <u>15'</u> )																					
1. _____																					
2. _____																					
3. _____																					
4. _____																					
5. _____																					
		=Total Cover																			
Herb Stratum (Plot size: <u>5'</u> )					<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Trifolium pratense</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>																		
2. <u>Poa pratensis</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>																		
3. <u>Bromus inermis</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>																		
4. <u>Dichanthelium clandestinum</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																		
5. <u>Asclepias syriaca</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																		
6. <u>Trifolium repens</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																		
7. <u>Melilotus officinalis</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																		
8. <u>Echinochloa crus-galli</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																		
9. <u>Scirpus atrovirens</u>	<u>2</u>	<u>No</u>	<u>OBL</u>																		
10. <u>Carex scoparia</u>	<u>2</u>	<u>No</u>	<u>FACW</u>																		
		104 =Total Cover																			
Woody Vine Stratum (Plot size: <u>30'</u> )					<b>Hydrophytic Vegetation Present? Yes _____ No <u>X</u></b>																
1. _____																					
2. _____																					
		=Total Cover																			
Remarks: (Include photo numbers here or on a separate sheet.) No hydrophytic vegetation indicators present, dominance test is not > 50%, dominant species are FAC and FACU, prevalence index > 3.0.																					



## SOIL

[illegible]

## 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 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)		
<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text" value="0"/> Water Table Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> Saturation Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: No hydrology indicators present.			

## Wetland 091

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/3/2020

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-jbl-20200603-06

0.03 acres

2 2

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)

10.0 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 type="checkbox"/> ditch            | <input checked="" type="checkbox"/> point source (nonstormwater) |
| <input checked="" type="checkbox"/> tile  | <input checked="" 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:                                  |

9 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 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 checked="" 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 091

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/3/2020

Field Id:

w-jbl-20200603-06

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)

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
----------------------------	---	--------------------------------

<b>Wetland 091</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing North	

<b>Wetland 091</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 091</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing South	

<b>Wetland 091</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing West	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
----------------------------	---	--------------------------------

<b>Wetland 091</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 1  Soil Pit	

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/04/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-200604-04  
 Investigator(s): AEH, JBL Section, Township, Range: Q NW T1N R11W

Landform (hillside, terrace, etc.): lowland Local relief (concave, convex, none): none

Slope (%): 0 Lat: 40.015605 Long: -82.337751 Datum: NAD 83

Soil Map Unit Name: BrD - Brownsville channery silt loam, 12 to 18 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> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Sample point in to PEM Wetland 092, depression in old field adjacent to roadway, abuts ephemeral Stream 100. Wetland fully delineated.	

### 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><i>Onoclea sensibilis</i></u>	<u>75</u>	<u>Yes</u>	<u>FACW</u>	
2.	<u><i>Schedonorus arundinaceus</i></u>	<u>10</u>	<u>No</u>	<u>FACU</u>	
3.	<u><i>Carex annectens</i></u>	<u>5</u>	<u>No</u>	<u>FACW</u>	
4.	<u><i>Impatiens capensis</i></u>	<u>2</u>	<u>No</u>	<u>FACW</u>	
5.					
6.					
7.					
8.					
9.					
10.					
		<u>92</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: 1 (A)  
 Total Number of Dominant Species Across All Strata: 1 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**  

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>82</u>	x 2 = <u>164</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>92</u> (A)	<u>204</u> (B)
Prevalence Index = B/A = <u>2.22</u>	

**Hydrophytic Vegetation Indicators:**  
     1 - Rapid Test for Hydrophytic Vegetation  
X 2 - Dominance Test is >50%  
X 3 - Prevalence Index is ≤3.0<sup>1</sup>  
     4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
     Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators 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 rapid test, dominant species is FACW.



Sampling Point: /-jbl-200604-C

[illegible]

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 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)		
<b>Field Observations:</b>			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text"/>
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text"/>
(includes capillary fringe)		<b>Wetland Hydrology Present?</b> 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. Wetland is adjacent to ephemeral Stream 100 that flows north to NHD stream to flows north to Claylick Creek that flows northeast to Licking River that flows east to Muskingum River, a TNW.			



## Wetland 092

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/4/2020

**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-jbl-20200604-04

0.05 acres

**8** **8**

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** **15.0**

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 type="checkbox"/> ditch            | <input checked="" 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 checked="" type="checkbox"/> dredging                     |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other:                                  |

**8** **23**

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 checked="" type="checkbox"/> woody debris removal | <input checked="" type="checkbox"/> farming               |
| <input type="checkbox"/> toxic pollutants                | <input type="checkbox"/> nutrient enrichment              |

**23**

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

## Wetland 092

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/4/2020

Field Id:

w-jbl-20200604-04

23

subtotal this page

0

23

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

25

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

25 GRAND TOTAL(max 100 pts)


<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 092</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing North	

<b>Wetland 092</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing East	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
----------------------------	---	--------------------------------

<b>Wetland 092</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing South	

<b>Wetland 092</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 092</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 1  Soil Pit	

## Wetland 093

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/04/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-200604-03  
 Investigator(s): AEH, JBL Section, Township, Range: Q NW T1N R11W

Landform (hillside, terrace, etc.): plains Local relief (concave, convex, none): none

Slope (%): 0 Lat: 40.016028 Long: -82.33853 Datum: NAD 83

Soil Map Unit Name: BrD - Brownsville channery silt loam, 12 to 18 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> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Sample point in to PEM Wetland 093, depression in old field adjacent to ephemeral Stream 100. Wetland fully delineated.	

### 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
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15'</u> )				
1.					
2.					
3.					
4.					
5.					
					=Total Cover
<u>Herb Stratum</u>	(Plot size: <u>5'</u> )				
1.	<u><i>Onoclea sensibilis</i></u>	<u>65</u>	<u>Yes</u>	<u>FACW</u>	
2.	<u><i>Scirpus atrovirens</i></u>	<u>10</u>	<u>No</u>	<u>OBL</u>	
3.	<u><i>Solidago gigantea</i></u>	<u>10</u>	<u>No</u>	<u>FACW</u>	
4.	<u><i>Schedonorus arundinaceus</i></u>	<u>10</u>	<u>No</u>	<u>FACU</u>	
5.	<u><i>Schoenoplectus acutus</i></u>	<u>5</u>	<u>No</u>	<u>OBL</u>	
6.	<u><i>Impatiens capensis</i></u>	<u>2</u>	<u>No</u>	<u>FACW</u>	
7.					
8.					
9.					
10.					
					<u>102</u> =Total Cover
<u>Woody Vine Stratum</u>	(Plot size: <u>30'</u> )				
1.					
2.					
					=Total Cover

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)  
 Total Number of Dominant Species Across All Strata: 1 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**  

Total % Cover of:	Multiply by:
OBL species <u>15</u>	x 1 = <u>15</u>
FACW species <u>77</u>	x 2 = <u>154</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>102</u> (A)	<u>209</u> (B)
Prevalence Index = B/A = <u>2.05</u>	

**Hydrophytic Vegetation Indicators:**  
X 1 - Rapid Test for Hydrophytic Vegetation  
X 2 - Dominance Test is >50%  
X 3 - Prevalence Index is ≤3.0<sup>1</sup>  
     4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
     Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators 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 rapid test, dominant species is FACW.

Sampling Point: /-jbl-200604-C

[illegible]

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 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 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)		
<b>Field Observations:</b>			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text"/>
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text"/>
(includes capillary fringe)		<b>Wetland Hydrology Present?</b> 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. Wetland is adjacent to ephemeral Stream 100 that flows north to NHD stream to flows north to Claylick Creek that flows northeast to Licking River that flows east to Muskingum River, a TNW.			

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/04/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-200604-03  
 Investigator(s): AEH, JBL Section, Township, Range: Q NW T1N R11W  
 Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none  
 Slope (%): 0 Lat: 40.01574 Long: -82.33824 Datum: NAD83  
 Soil Map Unit Name: BrD - Brownsville channery silt loam, 12 to 18 percent slope 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: Sample point Upland 095, point out to Wetland 092 and Wetland 093 adjacent to ephemeral Stream 100. 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	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</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> )				<b>Prevalence Index worksheet:</b> <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>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>40</u></td> <td>x 3 = <u>120</u></td> </tr> <tr> <td>FACU species <u>47</u></td> <td>x 4 = <u>188</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>92</u> (A)</td> <td><u>318</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.46</u></td> </tr> </tbody> </table>	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>40</u>	x 3 = <u>120</u>	FACU species <u>47</u>	x 4 = <u>188</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>92</u> (A)	<u>318</u> (B)	Prevalence Index = B/A = <u>3.46</u>	
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>40</u>	x 3 = <u>120</u>																				
FACU species <u>47</u>	x 4 = <u>188</u>																				
UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>92</u> (A)	<u>318</u> (B)																				
Prevalence Index = B/A = <u>3.46</u>																					
1. <u>Morus alba</u>		30	Yes	FAC																	
2. <u>Cornus drummondii</u>		5	No	FAC																	
3. <u>    </u>																					
4. <u>    </u>																					
5. <u>    </u>																					
		35 =Total Cover																			
Herb Stratum	(Plot size: <u>5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Phleum pratense</u>		20	Yes	FACU																	
2. <u>Schedonorus arundinaceus</u>		15	Yes	FACU																	
3. <u>Solidago canadensis</u>		10	No	FACU																	
4. <u>Onoclea sensibilis</u>		5	No	FACW																	
5. <u>Poa pratensis</u>		5	No	FAC																	
6. <u>Dipsacus fullonum</u>		2	No	FACU																	
7. <u>    </u>																					
8. <u>    </u>																					
9. <u>    </u>																					
10. <u>    </u>																					
		57 =Total Cover																			
Woody Vine Stratum	(Plot size: <u>30'</u> )				<b>Hydrophytic Vegetation Present? Yes <u>    </u> No <u>X</u></b>																
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 is not > 50%, prevalence index is not ≤ 3.0.																					



[illegible]

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Other (Explain in Remarks)
<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)	

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

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____ No <u>X</u>
---	---

<p>Remarks:</p> <p>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. (<a href="https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf">https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf</a>)</p> <p>No hydric soil indicators present.</p>
---

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 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)	

<b>Field Observations:</b>				<b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u>	
Surface Water Present?	Yes _____	No <u>x</u>	Depth (inches): _____		
Water Table Present?	Yes _____	No <u>x</u>	Depth (inches): _____		
Saturation Present?	Yes _____	No <u>x</u>	Depth (inches): _____		
(includes capillary fringe)					

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

Remarks: No hydrology indicators present.
--

## Wetland 093

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/4/2020

**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-jbl-20200604-03

0.08 acres

**8 8**

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 15.0**

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 type="checkbox"/> ditch            | <input checked="" 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 checked="" type="checkbox"/> dredging                     |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other:                                  |

**8 23**

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 checked="" type="checkbox"/> woody debris removal | <input checked="" type="checkbox"/> farming               |
| <input type="checkbox"/> toxic pollutants                | <input type="checkbox"/> nutrient enrichment              |

**23**

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

## Wetland 093

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/4/2020

Field Id:

w-jbl-20200604-03

23

subtotal this page

0

23

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

27

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) 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  
☐ 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

27 GRAND TOTAL(max 100 pts)

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 093</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing North	

<b>Wetland 093</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
----------------------------	---	--------------------------------

<b>Wetland 093</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing South	

<b>Wetland 093</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing West	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
----------------------------	---	--------------------------------

<b>Wetland 093</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 1  Soil Pit	

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/04/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-200604-02  
 Investigator(s): AEH, JBL Section, Township, Range: Q SW T2N R11W

Landform (hillside, terrace, etc.): lowland Local relief (concave, convex, none): concave

Slope (%): 0 Lat: 40.031449 Long: -82.353243 Datum: NAD 83

Soil Map Unit Name: TsC2 - Titusville silt loam, 6 to 12 percent slopes, erod NWI classification: none

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

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

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

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

Hydrophytic Vegetation Present? Yes <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>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Sample point in to PEM Wetland 094 located in cow pasture. Wetland fully delineated in swale, vegetation not significantly disrupted for identification. Drains to north to intermittent Stream 103.	

### VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
1. <u>    </u>																					
2. <u>    </u>																					
3. <u>    </u>																					
4. <u>    </u>																					
5. <u>    </u>																					
		=Total Cover			<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u>80</u></td> <td>x 1 = <u>80</u></td> </tr> <tr> <td>FACW species <u>40</u></td> <td>x 2 = <u>80</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>125</u> (A)</td> <td><u>180</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>1.44</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>80</u>	x 1 = <u>80</u>	FACW species <u>40</u>	x 2 = <u>80</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>125</u> (A)	<u>180</u> (B)	Prevalence Index = B/A = <u>1.44</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>80</u>	x 1 = <u>80</u>																				
FACW species <u>40</u>	x 2 = <u>80</u>																				
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Column Totals: <u>125</u> (A)	<u>180</u> (B)																				
Prevalence Index = B/A = <u>1.44</u>																					
		=Total Cover																			
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )																					
1. <u>    </u>																					
2. <u>    </u>																					
3. <u>    </u>																					
4. <u>    </u>																					
5. <u>    </u>																					
		=Total Cover																			
<b>Herb Stratum</b> (Plot size: <u>5'</u> )																					
1. <u>Juncus effusus</u>		<u>35</u>	<u>Yes</u>	<u>OBL</u>																	
2. <u>Phalaris arundinacea</u>		<u>30</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Scirpus atrovirens</u>		<u>30</u>	<u>Yes</u>	<u>OBL</u>																	
4. <u>Eleocharis palustris</u>		<u>15</u>	<u>No</u>	<u>OBL</u>																	
5. <u>Mentha arvensis</u>		<u>10</u>	<u>No</u>	<u>FACW</u>																	
6. <u>Schedonorus arundinaceus</u>		<u>5</u>	<u>No</u>	<u>FACU</u>																	
7. <u>    </u>																					
8. <u>    </u>																					
9. <u>    </u>																					
10. <u>    </u>																					
		<u>125</u> =Total Cover																			
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )																					
1. <u>    </u>																					
2. <u>    </u>																					
		=Total Cover																			
<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																					
<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>    </u>																					
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation indicator present as rapid test, dominant species are OBL and FACW.																					

## SOIL

Sampling Point: r-jbl-200604-C

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 <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR 4/1	90	10YR 5/8	10	C	PL	Loamy/Clayey	Prominent redox concentrations

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

<b>Hydric Soil Indicators:</b> <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 checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <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)
---	---	--

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

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 Hydric soil indicator present as low chroma/high value depleted matrix with prominent redox concentrations in pore linings.

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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 checked="" 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 type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)				

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

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

Remarks:  
 One primary and multiple secondary hydrology indicators present. Primary sources of hydrology are outflow from farm pond outside study area and precipitation. Wetland abuts intermittent Stream 103 that flows north to Equality Run that flows northeast to Muskingum River, a TNW.



## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/04/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-200604-02  
 Investigator(s): AEH, JBL Section, Township, Range: Q SW T2N R11W

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none

Slope (%): 5 Lat: 40.03152 Long: 082.35322 Datum: NAD83

Soil Map Unit Name: TsC2 Titusville silt loam, 6 to 12 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>    </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>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u>
Remarks: Sample point Upland 096 point out to Wetland 094, located in cow pasture. Not a wetland point as not wetland criteria met.	

### VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1.					<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</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>0.0%</u> (A/B)																
2.																					
3.																					
4.																					
5.																					
		=Total Cover																			
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )																					
1.					<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>82</u></td> <td>x 4 = <u>328</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>92</u> (A)</td> <td><u>358</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.89</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>82</u>	x 4 = <u>328</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>92</u> (A)	<u>358</u> (B)	Prevalence Index = B/A = <u>3.89</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>0</u>	x 1 = <u>0</u>																				
FACW species <u>0</u>	x 2 = <u>0</u>																				
FAC species <u>10</u>	x 3 = <u>30</u>																				
FACU species <u>82</u>	x 4 = <u>328</u>																				
UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>92</u> (A)	<u>358</u> (B)																				
Prevalence Index = B/A = <u>3.89</u>																					
2.																					
3.																					
4.																					
5.																					
		=Total Cover																			
<b>Herb Stratum</b> (Plot size: <u>5'</u> )																					
1.	<u>Trifolium repens</u>	<u>60</u>	<u>Yes</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2.	<u>Schedonorus arundinaceus</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>																	
3.	<u>Alliaria petiolata</u>	<u>10</u>	<u>No</u>	<u>FAC</u>																	
4.	<u>Taraxacum officinale</u>	<u>2</u>	<u>No</u>	<u>FACU</u>																	
5.																					
6.																					
7.																					
8.																					
9.																					
10.																					
		<u>92</u> =Total Cover																			
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )																					
1.					<b>Hydrophytic Vegetation Present?</b> Yes <u>    </u> No <u>X</u>																
2.																					
		=Total Cover																			

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

No hydrophytic vegetation indicators present, dominance test is not > 50%, prevalence index is not <= 3.0.

[illegible]

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Coast Prairie Redox (A16)  
☐ Iron-Manganese Masses (F12)  
☐ Red Parent Material (F21)  
☐ Very Shallow Dark Surface (F22)  
☐ Other (Explain in Remarks)

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

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No X

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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
No hydric soil indicators present.

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 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)	

Surface Water Present? Yes \_\_\_\_\_ No   x   Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No   x   Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes \_\_\_\_\_ No   x   Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?**    Yes            No    X

No hydrology indicators present

## Wetland 094

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/4/2020

**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-20200604-02

0.12 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)

**10.0** **15.0**

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 type="checkbox"/> ditch            | <input checked="" 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 checked="" type="checkbox"/> dredging                     |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other:                                  |

**7.5** **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 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 checked="" type="checkbox"/> woody debris removal | <input checked="" type="checkbox"/> farming               |
| <input type="checkbox"/> toxic pollutants                | <input type="checkbox"/> nutrient enrichment              |

**22.5**

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

## Wetland 094

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/4/2020

Field Id:

w-jbl-20200604-02

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)

1 23.5

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) 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.

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

23.5 GRAND TOTAL(max 100 pts)




<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 094</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing North	

<b>Wetland 094</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing East	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 094</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing South	

<b>Wetland 094</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing West	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 094</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 1  Soil Pit	

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/04/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-200604-01  
 Investigator(s): AEH, JBL Section, Township, Range: Q SW T2N R11W

Landform (hillside, terrace, etc.): lowland Local relief (concave, convex, none): none

Slope (%): 0 Lat: 40.03475 Long: -82.353787 Datum: NAD 83

Soil Map Unit Name: Or - Orrville silt loam, 0 to 3 percent slopes, occasionally flooded 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>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Sample point (w-jbl-200604-01) in to PEM Wetland 095, located in cow pasture. Gravel road splits wetland into two portions. Abuts both banks of intermittent Stream 105. Wetland extends to east and west outside study area.	

### VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</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> )				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 40%;">Total % Cover of:</th> <th style="width: 60%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>60</u></td> <td>x 1 = <u>60</u></td> </tr> <tr> <td>FACW species <u>30</u></td> <td>x 2 = <u>60</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>95</u> (A)</td> <td><u>140</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>1.47</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>60</u>	x 1 = <u>60</u>	FACW species <u>30</u>	x 2 = <u>60</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>95</u> (A)	<u>140</u> (B)	Prevalence Index = B/A = <u>1.47</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>60</u>	x 1 = <u>60</u>																				
FACW species <u>30</u>	x 2 = <u>60</u>																				
FAC species <u>0</u>	x 3 = <u>0</u>																				
FACU species <u>5</u>	x 4 = <u>20</u>																				
UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>95</u> (A)	<u>140</u> (B)																				
Prevalence Index = B/A = <u>1.47</u>																					
1. <u>    </u>																					
2. <u>    </u>																					
3. <u>    </u>																					
4. <u>    </u>																					
5. <u>    </u>																					
		=Total Cover																			
Herb Stratum	(Plot size: <u>5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Eleocharis palustris</u>		<u>20</u>	<u>Yes</u>	<u>OBL</u>																	
2. <u>Leersia oryzoides</u>		<u>20</u>	<u>Yes</u>	<u>OBL</u>																	
3. <u>Juncus effusus</u>		<u>15</u>	<u>Yes</u>	<u>OBL</u>																	
4. <u>Carex annectens</u>		<u>15</u>	<u>Yes</u>	<u>FACW</u>																	
5. <u>Carex vulpinoidea</u>		<u>10</u>	<u>No</u>	<u>FACW</u>																	
6. <u>Carex scoparia</u>		<u>5</u>	<u>No</u>	<u>FACW</u>																	
7. <u>Schedonorus arundinaceus</u>		<u>5</u>	<u>No</u>	<u>FACU</u>																	
8. <u>Scirpus atrovirens</u>		<u>5</u>	<u>No</u>	<u>OBL</u>																	
9. <u>    </u>																					
10. <u>    </u>																					
		<u>95</u> =Total Cover																			
Woody Vine Stratum	(Plot size: <u>30'</u> )				<b>Hydrophytic Vegetation Present?</b> 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 rapid test, dominant species are OBL and FACW.																					



Sampling Point: r-jbl-200604-C

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 <sup>1</sup>	Loc <sup>2</sup>		
0-18	5G 4/1	95	10YR 6/8	5	C	PL	Loamy/Clayey	Prominent redox concentrations
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.					<sup>2</sup> Location: PL=Pore Lining, M=Matrix.			
<b>Hydric Soil Indicators:</b>					<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>			
<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 checked="" 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)			
<b>Restrictive Layer (if observed):</b>					<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Type: _____								
Depth (inches): _____								
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. ( <a href="https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf">https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf</a> ) Hydric soil indicator present as gleyed matrix.								
<b>HYDROLOGY</b>								
<b>Wetland Hydrology Indicators:</b>								
Primary Indicators (minimum of one is required; check all that apply)					Secondary Indicators (minimum of two required)			
<input checked="" type="checkbox"/> Surface Water (A1)					<input type="checkbox"/> Surface Soil Cracks (B6)			
<input checked="" type="checkbox"/> High Water Table (A2)					<input checked="" type="checkbox"/> Drainage Patterns (B10)			
<input checked="" type="checkbox"/> Saturation (A3)					<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Water Marks (B1)					<input type="checkbox"/> Crayfish Burrows (C8)			
<input checked="" type="checkbox"/> Sediment Deposits (B2)					<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input checked="" type="checkbox"/> Drift Deposits (B3)					<input type="checkbox"/> Stunted or Stressed Plants (D1)			
<input type="checkbox"/> Algal Mat or Crust (B4)					<input checked="" type="checkbox"/> Geomorphic Position (D2)			
<input type="checkbox"/> Iron Deposits (B5)					<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)			
<b>Field Observations:</b>					<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Surface Water Present?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): 0.5					
Water Table Present?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): 0					
Saturation Present?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): 0					
(includes capillary fringe)								
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								
Remarks: Multiple primary and secondary hydrology indicators present. Wetland abuts both banks of intermittent Stream 105 that flows east to Equality Run that flows northeast to Muskingum River, a TNW.								

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/04/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-200604-01  
 Investigator(s): AEH, JBL Section, Township, Range: Q SW T2N R11W

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none

Slope (%): 0 Lat: 40.03438 Long: -82.35386 Datum: NAD83

Soil Map Unit Name: Or - Orrville silt loam, 0 to 3 percent slopes, occasionally flooded 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: Sample point Upland 097 is point out to Wetland 095, located in cow pasture on terrace of intermittent stream 096. 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	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)																
1.																					
2.																					
3.																					
4.																					
5.																					
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1.	<u>Trifolium repens</u>	<u>70</u>	<u>Yes</u>	<u>FACU</u>																	
2.	<u>Schedonorus arundinaceus</u>	<u>20</u>	<u>No</u>	<u>FACU</u>																	
3.	<u>Leersia oryzoides</u>	<u>10</u>	<u>No</u>	<u>OBL</u>																	
4.	<u>Juncus tenuis</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
5.	<u>Taraxacum officinale</u>	<u>2</u>	<u>No</u>	<u>FACU</u>																	
6.																					
7.																					
8.																					
9.																					
10.																					
		107 =Total Cover																			
Woody Vine Stratum	(Plot size: <u>30'</u> )				<b>Hydrophytic Vegetation</b> Present? Yes <u>    </u> No <u>X</u>																
1.																					
2.																					
		=Total Cover																			

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

No hydrophytic vegetation indicators present, dominance test is not > 50%, prevalence index is not <= 3.0.

[illegible]

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 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 checked="" 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)		
<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> Water Table Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> Saturation Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: One secondary hydrology indicator present.			

## Wetland 095

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/4/2020

**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)

Field Id:

w-jbl-20200604-01

0.37 acres

**4** **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)

**11.0** **17.0**

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 type="checkbox"/> ditch            | <input checked="" 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 checked="" type="checkbox"/> dredging                     |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other:                                  |

**7.5** **24.5**

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 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 checked="" type="checkbox"/> woody debris removal | <input checked="" type="checkbox"/> farming               |
| <input type="checkbox"/> toxic pollutants                | <input type="checkbox"/> nutrient enrichment              |

**24.5**

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating



**Wetland 095**

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/4/2020

Field Id:

w-jbl-20200604-01

**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)

**5 29.5**

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) 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.

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


**29.5 GRAND TOTAL(max 100 pts)**

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
----------------------------	---	--------------------------------

<b>Wetland 095</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing North	

<b>Wetland 095</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing East	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
----------------------------	---	--------------------------------

<b>Wetland 095</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing South	

<b>Wetland 095</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing West	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
----------------------------	---	--------------------------------

<b>Wetland 095</b>	
<b>Date:</b> June 4, 2020	
<b>Description:</b>  PEM wetland  Category 1  Soil Pit	



## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/03/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-200603-05  
 Investigator(s): AEH, JBL Section, Township, Range: Q SW T2N R11W  
 Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): concave  
 Slope (%): 0 Lat: 40.056255 Long: -82.354023 Datum: NAD 83  
 Soil Map Unit Name: St - Stonelick loam, occasionally flooded 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>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Sample point w-jbl-20200603-05 is point in to forest Wetland 096 located in floodplain surrounded by agricultural field. Wetland extends to east outside study area.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																																									
1. <u>Acer negundo</u>	40	Yes	FAC	<b>Dominance Test worksheet:</b> 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. <u>Populus deltoides</u>	10	No	FAC																																									
3. <u>Liquidambar styraciflua</u>	10	No	FACW																																									
4. <u>    </u>																																												
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2. <u>Echinochloa crus-galli</u>	15	Yes	FACW																																									
3. <u>Lysimachia nummularia</u>	15	Yes	FACW																																									
4. <u>Ulmus rubra</u>	5	No	FAC																																									
5. <u>Packera aurea</u>	5	No	FACW																																									
6. <u>    </u>																																												
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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 FAC 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 <sup>1</sup>	Loc <sup>2</sup>		
0-5	10YR 2/1	90	10YR 6/8	10	C	PL	Loamy/Clayey	Prominent redox concentrations
5-18	10YR 2/1	80	10YR 6/8	20	C	PL	Loamy/Clayey	Prominent redox concentrations

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<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 checked="" 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)
	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 Hydric soil indicator present as low chroma/low value matrix with 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 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 checked="" type="checkbox"/> Sediment Deposits (B2)	<input 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)		

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> 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 concentration of precipitation and surface runoff in geomorphic position and overbank flow from perennial Stream 108 (Licking River). Wetland is adjacent (within floodplain) to perennial Licking River that flows east to Muskingum River, a TNW.

## Upland 098

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138kV Transmission Line City/County: Licking County Sampling Date: 06/03/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-200603-05  
 Investigator(s): AEH, JBL Section, Township, Range: Q SW T2N R11W

Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): none

Slope (%): 10 Lat: 40.056168 Long: -82.354172 Datum: NAD 83

Soil Map Unit Name: St-Stonelick loam, occasionally flooded 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>X</u> No <u>    </u>	
Remarks: Sample point Upland 098 (upl-jbl-20200603-05) kpoint out located southwest of Wetland 096, on edge of ag field. Not a wetland point as hydrophytic vegetation and hydric soil criteria not met.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> 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>Aesculus flava</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Acer negundo</u>	<u>30</u>	<u>Yes</u>	<u>FAC</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>60</u> =Total Cover																				
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index worksheet:</b> <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>55</u></td> <td>x 2 = <u>110</u></td> </tr> <tr> <td>FAC species <u>35</u></td> <td>x 3 = <u>105</u></td> </tr> <tr> <td>FACU species <u>90</u></td> <td>x 4 = <u>360</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>185</u> (A)</td> <td><u>600</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.24</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>55</u>	x 2 = <u>110</u>	FAC species <u>35</u>	x 3 = <u>105</u>	FACU species <u>90</u>	x 4 = <u>360</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>185</u> (A)	<u>600</u> (B)	Prevalence Index = B/A = <u>3.24</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>55</u>	x 2 = <u>110</u>																			
FAC species <u>35</u>	x 3 = <u>105</u>																			
FACU species <u>90</u>	x 4 = <u>360</u>																			
UPL species <u>5</u>	x 5 = <u>25</u>																			
Column Totals: <u>185</u> (A)	<u>600</u> (B)																			
Prevalence Index = B/A = <u>3.24</u>																				
1. <u>Aesculus flava</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Acer negundo</u>	<u>5</u>	<u>Yes</u>	<u>FAC</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	<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Verbesina alternifolia</u>	<u>40</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Galium aparine</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Elymus virginicus</u>	<u>15</u>	<u>No</u>	<u>FACW</u>																	
4. <u>Ageratina altissima</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
5. <u>Phlox divaricata</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
6. <u>Glycine max</u>	<u>5</u>	<u>No</u>	<u>UPL</u>																	
7. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
8. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
9. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
10. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
<u>110</u> =Total Cover																				
Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Present?</b> Yes <u>    </u> No <u>X</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.) No hydrophytic vegetation indicators present, dominance test is not > 50%, dominant species are FAC, FACW and FACU, prevalence index > 3.0.																				

## SOIL

Sampling Point: 1-jbl-200603-

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 <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 3/1	100					Loamy/Clayey	
12-17	10YR 3/2	100					Loamy/Clayey	

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<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)
	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____ No <u>X</u>
---	---

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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 No hydric soil indicators present, low chroma/low value matrix without redox concentrations.

## 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 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 checked="" type="checkbox"/> Sediment Deposits (B2)	<input 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 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)		

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____
--	---

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

Remarks:  
 Multiple hydrology indicators present. Sample point is within floodplain of the Licking River that flows east to Muskingum River, a TNW.



## Wetland 096

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/3/2020

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-jbl-20200603-05

0.08

acres

extends outside SA

2 2

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)

11.0 13.0

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 type="checkbox"/> ditch            | <input checked="" type="checkbox"/> point source (nonstormwater) |
| <input checked="" type="checkbox"/> tile  | <input checked="" 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:                                  |

11.5 24.5

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 checked="" type="checkbox"/> woody debris removal | <input checked="" type="checkbox"/> farming               |
| <input type="checkbox"/> toxic pollutants                | <input type="checkbox"/> nutrient enrichment              |

24.5

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

# Wetland 096

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/3/2020

Field Id:

w-jbl-20200603-05

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)

6 30.5

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.

- ☐ Vegetated hummocks/tussocks
- ☒ 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

30.5 GRAND TOTAL(max 100 pts)

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 096</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PFO wetland  Category 2  Facing North	

<b>Wetland 096</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PFO wetland  Category 2  Facing East	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
----------------------------	---	--------------------------------

<b>Wetland 096</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PFO wetland  Category 1  Facing South	

<b>Wetland 096</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PFO wetland  Category 2  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 096</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PFO wetland  Category 2  Soil Pit	

## Wetland 097

## WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmissin Line City/County: Licking County Sampling Date: 03-Jun-20  
Applicant/Owner: AEP State: OH Sampling Point: w-jbl-200603-01  
Investigator(s): AEH, JBL Section, Township, Range: S 2N R 11W  
Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): none Slope: 0.0% / 0.0 °  
Subregion (LRR or MLRA): LRR N Lat.: 40.07786 Long.: -82.36053 Datum: NAD83  
Soil Map Unit Name: Sh - Shoals silt loam, 0 to 2 percent slopes, occasionally flooded NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ 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-20200603-01 point in to PEM Wetland 097 located in horse pasture. Wetland extends to west outside study area and abuts intermittent Stream 110.	

## 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 checked="" 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 sources of hydrology are overbank flow from intermittent Stream 110 and concentration of precipitation and surface runoff in geomorphic position. Wetland abuts intermittent Stream 110 that flows south to Shawnee Run that flows south to Licking River that flows east to Muskingum River, a TNW.			

Tree Stratum	(Plot size: <u>30' radius</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' radius</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: <u>                    </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%	
		0 = Total Cover		
Herb Stratum	(Plot size: <u>5' radius</u> )	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.	Carex annectens	55	<input checked="" type="checkbox"/> 50.0%	FACW
2.	Agrostis gigantea	30	<input checked="" type="checkbox"/> 27.3%	FACW
3.	Scirpus atrovirens	10	<input type="checkbox"/> 9.1%	OBL
4.	Carex lurida	10	<input type="checkbox"/> 9.1%	OBL
5.	Valerianella umbilicata	5	<input type="checkbox"/> 4.5%	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%	
		110 = Total Cover		
Woody Vine Stratum	(Plot size: <u>30' radius</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>20</u>	x 1 = <u>20</u>
FACW species <u>85</u>	x 2 = <u>170</u>
FAC species <u>5</u>	x 3 = <u>15</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>110</u> (A)	<u>205</u> (B)
Prevalence Index = B/A = <u>1.864</u>	

**Hydrophytic Vegetation Indicators:**

☒ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0**<sup>1</sup>

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

☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> 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.

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

[illegible]

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

Hydric Soil Indicators:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	Indicators for Problematic Hydric Soils <sup>3</sup> :
<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 checked="" 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)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present?    Yes <input checked="" type="radio"/> No <input type="radio"/>
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Remarks:	Hydric soil indicator present as low chroma/low value matrix with prominent redox concentrations in pore linings.
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# Upland 099

## WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmissin Line City/County: Licking County Sampling Date: 03-Jun-20  
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-200603-01  
 Investigator(s): AEH, JBL Section, Township, Range: S 2N R 11W  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): none Slope: 0.0% / 0.0 °  
 Subregion (LRR or MLRA): LRR N Lat.: 40.07784 Long.: -82.36047 Datum: NAD83  
 Soil Map Unit Name: Sh - Shoals silt loam, 0 to 2 percent slopes, occasionally flooded NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ 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 checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point Upland 099 point out to Wetland 097 taken in horse pasture about 2 feet east of boundary near Stream 110. Not a wetland point as hydrophytic vegetation 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 checked="" 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 checked="" 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 checked="" type="radio"/> No <input type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: One primary and one secondary hydrology indicators present. Sample point located near bank of intermittent Stream 110.		

Tree Stratum (Plot size: <u>30' radius</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' radius</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' radius</u> )			
1. <u>Trifolium repens</u>	45	<input checked="" type="checkbox"/> 47.4%	FACU
2. <u>Poa pratensis</u>	20	<input checked="" type="checkbox"/> 21.1%	FACU
3. <u>Schedonorus arundinaceus</u>	15	<input type="checkbox"/> 15.8%	FACU
4. <u>Carex annectens</u>	15	<input type="checkbox"/> 15.8%	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%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
= Total Cover			
Woody Vine Stratum (Plot size: <u>30' radius</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: 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>15</u>	x 2 = <u>30</u>
FAC species <u>0</u>	x 3 = <u>0</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>95</u> (A)	<u>350</u> (B)
Prevalence Index = B/A = <u>3.684</u>	

**Hydrophytic Vegetation Indicators:**

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0** <sup>1</sup>

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

☐ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> 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 is not &gt; 50%, dominant species are FACU, prevalence index &gt; 3.0

Soil

Sampling Point: **upl-jbl-200603-01**

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

Depth (inches)	Matrix			Redox Features				Loc <sup>2</sup>	Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type <sup>1</sup>			
0-18	10YR	2/2	90	10YR	5/6	10	C	PL	Silty Clay Loam	

<sup>1</sup> Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Location: 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<sup>3</sup>:

- ☐ 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)

<sup>3</sup> 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 prominent redox concentrations in pore linings.

## Wetland 097

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/3/2020

Field Id:

w-jbl-20200603-01

1	1
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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)

0.20
------

 acres  
extends outside survey area

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)

13.0	22.0
------	------

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 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:                                  |

10.5	32.5
------	------

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 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 type="checkbox"/> woody debris removal         | <input type="checkbox"/> farming                          |
| <input type="checkbox"/> toxic pollutants             | <input type="checkbox"/> nutrient enrichment              |

32.5
------

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating



**Wetland 097**

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/3/2020

Field Id:

w-jbl-20200603-01

**32.5**

subtotal this page

**0 32.5**

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 34.5**

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) 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

Modified Category 2

**34.5** GRAND TOTAL(max 100 pts)

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 097</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing North	

<b>Wetland 097</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing East	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 097</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing South	

<b>Wetland 097</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 097</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 2  Soil Pit	



# Wetland 098

## WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmissin Line City/County: Licking County Sampling Date: 03-Jun-20  
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-200603-02  
 Investigator(s): AEH, JBL Section, Township, Range: S T 2N R 11W  
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): none Slope: 0.0% / 0.0 °  
 Subregion (LRR or MLRA): LRR N Lat.: 40.07893 Long.: -82.36065 Datum: NAD83  
 Soil Map Unit Name: Sh - Shoals silt loam, 0 to 2 percent slopes, occasionally flooded NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ 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-20200603-02 point in to PEM Wetland 098 located in horse pasture. Wetland extends to east outside study area and abuts intermittent Stream 110 and ephemeral Stream 111.	

### 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 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: One primary and two secondary hydrology indicators present. Primary source of hydrology is concentration of precipitation and surface runoff and overbank flow from intermittent Stream 110. Wetland abuts Intermittent Stream 110 that flows south to Shawnee Run that flows south to Licking River that flows east to Muskingum River, a TNW.			

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. _____	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'</u> radius )			
1. <u>Typha angustifolia</u>	35	<input checked="" type="checkbox"/> 38.9%	OBL
2. <u>Eleocharis palustris</u>	20	<input checked="" type="checkbox"/> 22.2%	OBL
3. <u>Poa pratensis</u>	15	<input type="checkbox"/> 16.7%	FACU
4. <u>Impatiens capensis</u>	15	<input type="checkbox"/> 16.7%	FACW
5. <u>Onoclea sensibilis</u>	5	<input type="checkbox"/> 5.6%	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%	_____
90 = Total Cover			
Woody Vine Stratum (Plot size: <u>30'</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: 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>55</u>	x 1 = <u>55</u>
FACW species <u>20</u>	x 2 = <u>40</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>15</u>	x 4 = <u>60</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>90</u> (A)	<u>155</u> (B)
Prevalence Index = B/A = <u>1.722</u>	

**Hydrophytic Vegetation Indicators:**

☒ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0**<sup>1</sup>

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

☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> 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.

Soil

Sampling Point: **w-jbl-200603-02**

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

Depth (inches)	Matrix			Redox Features				Loc <sup>2</sup>	Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type <sup>1</sup>			
0-18	10YR	2/1	95	10YR	5/6	5	C	PL	Clay Loam	

<sup>1</sup> Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Location: 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<sup>3</sup>:

☐ 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)

<sup>3</sup> 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 prominent redox concentrations in pore linings.

# Upland 100

## WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmissin Line City/County: Licking County Sampling Date: 03-Jun-20  
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-200603-02  
 Investigator(s): AEH, JBL Section, Township, Range: S T 2N R 11W  
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): none Slope: 0.0% / 0.0 °  
 Subregion (LRR or MLRA): LRR N Lat.: 40.07898 Long.: -82.36058 Datum: NAD83  
 Soil Map Unit Name: Sh - Shoals silt loam, 0 to 2 percent slopes, occasionally flooded NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ 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 100 is point out to Wetland 098, located in horse pasture about 2 feet north of boundary. Not a wetland point, 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): <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 wetland hydrology indicators present.		



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

Sampling Point: **upl-ibl-200603-02**

Tree Stratum (Plot size: <u>30' radius</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' radius</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' radius</u> )			
1. <u>Trifolium repens</u>	40	<input checked="" type="checkbox"/> 44.4%	FACU
2. <u>Dichanthelium clandestinum</u>	20	<input checked="" type="checkbox"/> 22.2%	FAC
3. <u>Poa pratensis</u>	20	<input checked="" type="checkbox"/> 22.2%	FACU
4. <u>Phleum pratense</u>	10	<input type="checkbox"/> 11.1%	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%	_____
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%	_____
90 = Total Cover			
Woody Vine Stratum (Plot size: <u>30' radius</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: 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>0</u>	x 2 = <u>0</u>
FAC species <u>20</u>	x 3 = <u>60</u>
FACU species <u>70</u>	x 4 = <u>280</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>90</u> (A)	<u>340</u> (B)
Prevalence Index = B/A = <u>3.778</u>	

**Hydrophytic Vegetation Indicators:**

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0** <sup>1</sup>

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

☐ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> 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 is not &gt; 50%, dominant species are FAC and FACU, prevalence index &gt; 3.0

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

[illegible]

## Wetland 098

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/3/2020

**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-20200603-02

0.11

acres

extends outside SA

**7** **8**

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)

**13.0** **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

- |   |  |
|---|--|
| <input type="checkbox"/> ditch            | <input checked="" type="checkbox"/> point source (nonstormwater) |
| <input checked="" 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:                                  |

**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

- |   |   |
|---|---|
| <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 type="checkbox"/> toxic pollutants             | <input type="checkbox"/> nutrient enrichment              |

**26.5**

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

## Wetland 098

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/3/2020

Field Id:

w-jbl-20200603-02

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)

-2 24.5

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) 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

24.5 GRAND TOTAL(max 100 pts)




<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 098</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing North	

<b>Wetland 098</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing East	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 098</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing South	

<b>Wetland 098</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 098</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 1  Soil Pit	

## Wetland 099

## WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmissin Line City/County: Licking County Sampling Date: 03-Jun-20  
Applicant/Owner: AEP State: OH Sampling Point: w-jbl-200603-03  
Investigator(s): AEH, JBL Section, Township, Range: S T 2N R 11W  
Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): none Slope: 0.0% / 0.0 °  
Subregion (LRR or MLRA): LRR N Lat.: 40.07904 Long.: -82.36093 Datum: \_\_\_\_\_  
Soil Map Unit Name: Sh - Shoals silt loam, 0 to 2 percent slopes, occasionally flooded NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ 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-20200603-03 point in to PEM Wetland 099 located in a cow pasture. Wetland extends to west outside study area and abuts intermittent Stream 110.	

## 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 sources of hydrology are overbank flow from intermittent Stream 110 and concentration of precipitation and surface runoff in geomorphic position. Wetland abuts intermittent Stream 110 that flows south to Shawnee Run that flows south to Licking River that flows east to Muskingum River, a TNW.			



Tree Stratum (Plot size: <u>30' radius</u> )	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <u>Quercus shumardii</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%	
5 = Total Cover			
Sapling-Sapling/Shrub Stratum (Plot size: <u>15' radius</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' radius</u> )			
1. <u>Typha angustifolia</u>	25	<input checked="" type="checkbox"/> 23.8%	OBL
2. <u>Carex lurida</u>	20	<input checked="" type="checkbox"/> 19.0%	OBL
3. <u>Poa pratensis</u>	20	<input checked="" type="checkbox"/> 19.0%	FACU
4. <u>Eupatorium perfoliatum</u>	15	<input type="checkbox"/> 14.3%	FACW
5. <u>Trifolium repens</u>	10	<input type="checkbox"/> 9.5%	FACU
6. <u>Carex annectens</u>	10	<input type="checkbox"/> 9.5%	FACW
7. <u>Impatiens capensis</u>	5	<input type="checkbox"/> 4.8%	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%	
105 = Total Cover			
Woody Vine Stratum (Plot size: <u>30' radius</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: 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>45</u>	x 1 = <u>45</u>
FACW species <u>30</u>	x 2 = <u>60</u>
FAC species <u>5</u>	x 3 = <u>15</u>
FACU species <u>30</u>	x 4 = <u>120</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>110</u> (A)	<u>240</u> (B)
Prevalence Index = B/A = <u>2.182</u>	

**Hydrophytic Vegetation Indicators:**

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0**<sup>1</sup>

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

☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> 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 and FACU.

## Soil

Sampling Point: **w-jbl-200603-03**

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

Depth (inches)	Matrix			Redox Features				Loc <sup>2</sup>	Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type <sup>1</sup>			
0-9	10YR	4/1	90	10YR	6/8	10	C	PL	Clay Loam	
9-18	10YR	5/1	90	10YR	6/8	10	C	PL	Clay Loam	

<sup>1</sup> Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Location: 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<sup>3</sup>:

- ☐ 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)

<sup>3</sup> 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 matrix with prominent redox concentrations in pore linings.

# Upland 101

## WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmissin Line City/County: Licking County Sampling Date: 03-Jun-20  
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-200603-03  
 Investigator(s): AEH, JBL Section, Township, Range: S 2N R 11W  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): none Slope: 0.0% / 0.0 °  
 Subregion (LRR or MLRA): LRR N Lat.: 40.07904 Long.: -82.36093 Datum: NAD83  
 Soil Map Unit Name: Sh - Shoals silt loam, 0 to 2 percent slopes, occasionally flooded NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ 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 checked="" type="radio"/> No <input type="radio"/>	
Remarks: Sample point Upland 101 point out to Wetland 099 taken in horse pasture about 5 feet east of boundary near Stream 110. Not a wetland point as hydrophytic vegetation 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 checked="" 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 checked="" 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 checked="" type="radio"/> No <input type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: One primary and one secondary hydrology indicators present. Sample point located near bank of intermittent Stream 100.		

Tree Stratum (Plot size: <u>30' radius</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' radius</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' radius</u> )			
1. Trifolium repens	60	<input checked="" type="checkbox"/> 60.0%	FACU
2. Poa pratensis	25	<input checked="" type="checkbox"/> 25.0%	FACU
3. Eupatorium perfoliatum	10	<input type="checkbox"/> 10.0%	FACW
4. Rosa multiflora	5	<input type="checkbox"/> 5.0%	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%	_____
0 = Total Cover			
Woody Vine Stratum (Plot size: <u>30' radius</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>10</u>	x 2 = <u>20</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>90</u>	x 4 = <u>360</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>380</u> (B)
Prevalence Index = B/A = <u>3.800</u>	

**Hydrophytic Vegetation Indicators:**

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0** <sup>1</sup>

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

☐ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> 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 is not > 50%, dominant species are UPL, prevalence index > 3.0



Soil

Sampling Point: **upl-jbl-200603-03**

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

Depth (inches)	Matrix			Redox Features				Loc <sup>2</sup>	Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type <sup>1</sup>			
0-18	10YR	4/2	90	10YR	5/6	10	C	PL	Clay Loam	

<sup>1</sup> Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Location: 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<sup>3</sup>:

- ☐ 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)

<sup>3</sup> 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 matrix with prominent redox concentrations in pore linings.

## Wetland 099

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/3/2020

**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)

Field Id:

w-jbl-20200603-03

 acres  
extends outside SA**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)

**13.0** **22.0**

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 type="checkbox"/> ditch            | <input checked="" type="checkbox"/> point source (nonstormwater) |
| <input checked="" 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:                                  |

**5** **27**

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 type="checkbox"/> toxic pollutants             | <input type="checkbox"/> nutrient enrichment              |

**27**

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

**Wetland 099**

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/3/2020

Field Id:

w-jbl-20200603-03

27

subtotal this page

0

27

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

25

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

25

GRAND TOTAL(max 100 pts)

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 099</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing North	

<b>Wetland 099</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 099</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing South	

<b>Wetland 099</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing West	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 099</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 1  Soil Pit	

# Wetland 100

## WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmissin Line City/County: Licking County Sampling Date: 03-Jun-20  
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-200603-04  
 Investigator(s): AEH, JBL Section, Township, Range: S T 2N R 11W  
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): concave Slope: 0.0% / 0.0 °  
 Subregion (LRR or MLRA): LRR N Lat.: 40.08822 Long.: -82.36813 Datum: NAD83  
 Soil Map Unit Name: Sh - Shoals silt loam, 0 to 2 percent slopes, occasionally flooded NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ 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-20200603-04 is point in to PEM Wetland 100 located within swale between two agricultural fields draining to large pond. Wetland fully delineated on east bank of Pond 15.	

### 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 checked="" 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>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 sources of hydrology are perennial Pond 15 and concentration of precipitation and surface runoff in geomorphic position. Wetland abuts Pond 15 an impoundment of perennial Shawnee Run that flows south to Licking River that flows east to Muskingum River, a TNW.			

Tree Stratum	(Plot size: <u>30' radius</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' radius</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' radius</u> )	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.	<u>Echinochloa crus-galli</u>	35	<input checked="" type="checkbox"/> 29.9%	FAC
2.	<u>Agrostis gigantea</u>	30	<input checked="" type="checkbox"/> 25.6%	FACW
3.	<u>Carex annectens</u>	15	<input type="checkbox"/> 12.8%	FACW
4.	<u>Leersia oryzoides</u>	15	<input type="checkbox"/> 12.8%	OBL
5.	<u>Juncus effusus</u>	15	<input type="checkbox"/> 12.8%	FACW
6.	<u>Eupatorium perfoliatum</u>	5	<input type="checkbox"/> 4.3%	FACW
7.	<u>Solidago canadensis</u>	2	<input type="checkbox"/> 1.7%	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%	
		117 = Total Cover		
Woody Vine 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%	
		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>15</u>	x 1 = <u>15</u>
FACW species <u>65</u>	x 2 = <u>130</u>
FAC species <u>35</u>	x 3 = <u>105</u>
FACU species <u>2</u>	x 4 = <u>8</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>117</u> (A)	<u>258</u> (B)
Prevalence Index = B/A = <u>2.205</u>	

**Hydrophytic Vegetation Indicators:**

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is ≤3.0 <sup>1</sup>

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

☐ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> 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.



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

Depth (inches)	Matrix			Redox Features				Loc <sup>2</sup>	Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type <sup>1</sup>			
0-18	10YR	4/1	95	10YR	6/4	5	C	PL	Silty Clay Loam	

<sup>1</sup> Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Location: 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<sup>3</sup>:

- ☐ 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)

<sup>3</sup> 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 prominent redox concentrations in pore linings.

# Upland 102

## WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmissin Line City/County: Licking County Sampling Date: 03-Jun-20  
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-200603-04  
 Investigator(s): AEH, JBL Section, Township, Range: S 2N R 11W  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): none Slope: 0.0% / 0.0 °  
 Subregion (LRR or MLRA): LRR N Lat.: 40.08822 Long.: -82.36813 Datum: NAD83  
 Soil Map Unit Name: Sh - Shoals silt loam, 0 to 2 percent slopes, occasionally flooded NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ 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 102 taken in agricultural field (disturbed soils) is point out to Wetland 100, about 5 feet north of boundary. Not a wetland point as 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 wetland hydrology indicators present.			

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

Sampling Point: **upl-ibl-200603-04**

Tree Stratum (Plot size: <u>30' radius</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' radius</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' radius</u> )			
1. <u>Poa pratensis</u>	15	<input checked="" type="checkbox"/> 30.0%	FACU
2. <u>Allium cernuum</u>	15	<input checked="" type="checkbox"/> 30.0%	FACU
3. <u>Zea mays</u>	10	<input checked="" type="checkbox"/> 20.0%	UPL
4. <u>Echinochloa crus-galli</u>	5	<input type="checkbox"/> 10.0%	FAC
5. <u>Mentha arvensis</u>	5	<input type="checkbox"/> 10.0%	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%	_____
= Total Cover			
Woody Vine Stratum (Plot size: <u>30' radius</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>5</u>	x 3 = <u>15</u>
FACU species <u>30</u>	x 4 = <u>120</u>
UPL species <u>10</u>	x 5 = <u>50</u>
Column Totals: <u>50</u> (A)	<u>195</u> (B)
Prevalence Index = B/A = <u>3.900</u>	

**Hydrophytic Vegetation Indicators:**

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0** <sup>1</sup>

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

☐ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> 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 is not > 50%, dominant species are FACU and UPL, prevalence index > 3.0

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

Soil

Sampling Point: **upl-jbl-200603-04**

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

Depth (inches)	Matrix			Redox Features				Loc <sup>2</sup>	Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type <sup>1</sup>			
0-18	10YR	4/2	95	10YR	5/6	5	C	PL	Silty Clay Loam	

<sup>1</sup> Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Location: 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<sup>3</sup>:

- ☐ 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)

<sup>3</sup> 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 prominent redox concentrations in pore linings. Soil disturbed by farming activities



## Wetland 100

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/3/2020

Field Id:

w-jbl-20200603-04

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)

0.15 acres

7 8

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)

15.0 23.0

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 type="checkbox"/> ditch            | <input checked="" type="checkbox"/> point source (nonstormwater) |
| <input checked="" type="checkbox"/> tile  | <input checked="" 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:                                  |

9 32

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 type="checkbox"/> woody debris removal         | <input checked="" type="checkbox"/> farming               |
| <input type="checkbox"/> toxic pollutants             | <input type="checkbox"/> nutrient enrichment              |

32

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

## Wetland 100

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/3/2020

Field Id:

w-jbl-20200603-04

32

subtotal this page

0

32

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

34

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

Modified Category 2


34 GRAND TOTAL(max 100 pts)


<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 100</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing North	

<b>Wetland 100</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing East	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 100</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing South	

<b>Wetland 100</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 100</b>	
<b>Date:</b> June 3, 2020	
<b>Description:</b>  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: Licking County Sampling Date: 02-Jun-20  
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-200602-05  
 Investigator(s): AEH, JBL Section, Township, Range: S T 2N R 12W  
 Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): none Slope: 0.0% / 0.0 °  
 Subregion (LRR or MLRA): LRR N Lat.: 40.097056 Long.: -82.393750 Datum: NAD 83  
 Soil Map Unit Name: MnC2 - Mechanicsburg silt loam, 6 to 12 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 101, located within a horse pasture. No obvious direct connection to downstream features, 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 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>0.25</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. No direct or obvious hydrologic connection to a downstream feature, potentially isolated.			

Tree Stratum (Plot size: <u>30'</u> radius )	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <u>Populus deltoides</u>	5	<input checked="" type="checkbox"/> 71.4%	FAC
2. <u>Acer saccharinum</u>	2	<input checked="" type="checkbox"/> 28.6%	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%	
7 = Total Cover			
Sapling-Sapling/Shrub 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%	
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: <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>Lysimachia nummularia</u>	20	<input checked="" type="checkbox"/> 26.0%	FACW
2. <u>Eleocharis palustris</u>	15	<input checked="" type="checkbox"/> 19.5%	OBL
3. <u>Eupatorium perfoliatum</u>	15	<input checked="" type="checkbox"/> 19.5%	FACW
4. <u>Trifolium repens</u>	10	<input type="checkbox"/> 13.0%	FACU
5. <u>Scirpus atrovirens</u>	10	<input type="checkbox"/> 13.0%	OBL
6. <u>Poa pratensis</u>	5	<input type="checkbox"/> 6.5%	FACU
7. <u>Trifolium pratense</u>	2	<input type="checkbox"/> 2.6%	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%	
77 = 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: 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>37</u>	x 2 = <u>74</u>
FAC species <u>5</u>	x 3 = <u>15</u>
FACU species <u>17</u>	x 4 = <u>68</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Total s: <u>84</u> (A)	<u>182</u> (B)
Prevalence Index = B/A = <u>2.167</u>	

**Hydrophytic Vegetation Indicators:**

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0**<sup>1</sup>

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

☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> 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





## WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 02-Jun-20  
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-20200602-05  
 Investigator(s): AEH, JBL Section, Township, Range: S T 2N R 12W  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): none Slope: 0.0% / 0.0 °  
 Subregion (LRR or MLRA): LRR N Lat.: 40.097029 Long.: -82.394117 Datum: NAD 83  
 Soil Map Unit Name: MnC2 - Mechanicsburg silt loam, 6 to 12 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: Sample point out to wetland 101 (Upland 102) taken in horse pasture, 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-ibl-20200602-05**

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. _____	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: <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>Trifolium repens</u>	20	<input checked="" type="checkbox"/> 40.0%	FACU
2. <u>Schedonorus arundinaceus</u>	15	<input checked="" type="checkbox"/> 30.0%	FACU
3. <u>Poa pratensis</u>	10	<input checked="" type="checkbox"/> 20.0%	FACU
4. <u>Dactylis glomerata</u>	5	<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%	_____
50 = 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: 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>50</u>	x 4 = <u>200</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>50</u> (A)	<u>200</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**<sup>1</sup>

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

☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> 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

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

Soil

Sampling Point: **upl-jbl-20200602-05**

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 <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR	4/5	100				Silty Clay	

<sup>1</sup> Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Location: 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<sup>3</sup>:

- ☐ 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)

<sup>3</sup> 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 101**

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/2/2020

**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-20200602-05

0.13 acres

**6** **7**

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)

**4.0** **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**

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> ditch | <input checked="" 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 checked="" type="checkbox"/> dredging                     |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other:                                  |

**5** **16**

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 checked="" type="checkbox"/> dredging              |
| <input checked="" type="checkbox"/> woody debris removal | <input type="checkbox"/> farming                          |
| <input type="checkbox"/> toxic pollutants                | <input type="checkbox"/> nutrient enrichment              |

**16**

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating



## Wetland 101

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/2/2020

Field Id:

w-jbl-20200602-05

16

subtotal this page

0

16

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

19

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
- ☐ 0 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

19 GRAND TOTAL(max 100 pts)

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 101</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing North	

<b>Wetland 101</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing East	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 101</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing South	

<b>Wetland 101</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 101</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 1  Soil Pit	



## WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmissin Line City/County: Licking County Sampling Date: 02-Jun-20  
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-20200602-02  
 Investigator(s): AEH, JBL Section, Township, Range: S T 2N R 12W  
 Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): none Slope: 0.0% / 0.0 °  
 Subregion (LRR or MLRA): LRR N Lat.: 40.096992 Long.: -82.395622 Datum: NAD 83  
 Soil Map Unit Name: Or - Orrville silt loam, 0 to 3 percent slopes, occasionally 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 in to PEM wetland 102, wetland abuts perennial stream 114 in low 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 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 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 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 and secondary hydrology indicators present. Primary source of hydrology is overbank flow from perennial stream 114. Wetland directly abuts perennial stream 114, which flows southwest to North Fork Licking River which flows east to Licking River which flows east to Muskingum River, a TNW			

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. _____		<input type="checkbox"/> 0.0%	_____
2. _____		<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: <u>0</u> )			
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> radius )			
1. <u>Carex lurida</u>	40	<input checked="" type="checkbox"/> 36.4%	OBL
2. <u>Carex scoparia</u>	35	<input checked="" type="checkbox"/> 31.8%	FACW
3. <u>Juncus effusus</u>	15	<input type="checkbox"/> 13.6%	FACW
4. <u>Dichanthelium clandestinum</u>	15	<input type="checkbox"/> 13.6%	FAC
5. <u>Poa pratensis</u>	5	<input type="checkbox"/> 4.5%	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%	_____
110 = 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: 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>40</u>	x 1 = <u>40</u>
FACW species <u>50</u>	x 2 = <u>100</u>
FAC species <u>15</u>	x 3 = <u>45</u>
FACU species <u>5</u>	x 4 = <u>20</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>110</u> (A)	<u>205</u> (B)
Prevalence Index = B/A = <u>1.864</u>	

**Hydrophytic Vegetation Indicators:**

☒ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0**<sup>1</sup>

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

☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> 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.)  
yellow rocket 30: hydrophytic vegetation indicator present as rapid test, dominant species are OBL and FACW

Soil

Sampling Point: **w-jbl-20200602-02**

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

Depth (inches)	Matrix			Redox Features				Loc <sup>2</sup>	Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type <sup>1</sup>			
0-18	10YR	5/1	85	10YR	6/8	15	C	PL	Silty Clay Loam	

<sup>1</sup> Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Location: 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<sup>3</sup>:

- ☐ 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)

<sup>3</sup> 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 and high value matrix

## WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmissin Line City/County: Licking County Sampling Date: 02-Jun-20  
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-20200602-03  
 Investigator(s): AEH, JBL Section, Township, Range: S ONE T 2N R 12W  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): none Slope: 0.0% / 0.0 °  
 Subregion (LRR or MLRA): LRR N Lat.: 40.096988 Long.: -82.395464 Datum: NAD 83  
 Soil Map Unit Name: Or - Orrville silt loam, 0 to 3 percent slopes, occasionally 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: Sample point out to Wetland 102 (Upland 104), between wetland and stream. 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'</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. _____	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: <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>Coronilla varia</u>	25	<input checked="" type="checkbox"/> 22.3%	UPL
2. <u>Taraxacum officinale</u>	25	<input checked="" type="checkbox"/> 22.3%	FACU
3. <u>Elymus repens</u>	15	<input checked="" type="checkbox"/> 13.4%	FACU
4. <u>Dichanthelium clandestinum</u>	15	<input checked="" type="checkbox"/> 13.4%	FAC
5. <u>Trifolium repens</u>	15	<input checked="" type="checkbox"/> 13.4%	FACU
6. <u>Oxalis corniculata</u>	10	<input type="checkbox"/> 8.9%	FACU
7. <u>Symphotrichum ericoides</u>	5	<input type="checkbox"/> 4.5%	FACU
8. <u>Sisyrinchium montanum</u>	2	<input type="checkbox"/> 1.8%	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%	_____
112 = 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: 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>0</u>	x 2 = <u>0</u>
FAC species <u>17</u>	x 3 = <u>51</u>
FACU species <u>70</u>	x 4 = <u>280</u>
UPL species <u>25</u>	x 5 = <u>125</u>
Column Total s: <u>112</u> (A)	<u>456</u> (B)
Prevalence Index = B/A = <u>4.071</u>	

**Hydrophytic Vegetation Indicators:**

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0** <sup>1</sup>

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

☐ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> 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, FACU and UPL

[illegible]

**Wetland 102**

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/2/2020

**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)

**Field Id:****w-jbl-20200602-02**

0.32 acres

extends outside SA

**12** **14**

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)

**14.0** **28.0**

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 type="checkbox"/> road bed/RR track            |
| <input type="checkbox"/> weir             | <input checked="" type="checkbox"/> dredging          |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other:                       |

**9** **37**

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 checked="" type="checkbox"/> dredging              |
| <input checked="" type="checkbox"/> woody debris removal | <input type="checkbox"/> farming                          |
| <input type="checkbox"/> toxic pollutants                | <input type="checkbox"/> nutrient enrichment              |

**37**

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

## Wetland 102

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/2/2020

Field Id:

w-jbl-20200602-02

37

subtotal this page

0

37

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

40

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) 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.

- ☐ 1 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


Modified Category 2

40

GRAND TOTAL(max 100 pts)

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 102</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing North	

<b>Wetland 102</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 102</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing South	

<b>Wetland 102</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing West	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 102</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 2  Soil Pit	

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 02-Jun-20  
Applicant/Owner: AEP State: OH Sampling Point: w-jbl-20200602-03  
Investigator(s): AEH, JBL Section, Township, Range: S T 2N R 12W  
Landform (hillslope, terrace, etc.): Valley bottom Local relief (concave, convex, none): concave Slope: 5.0% / 2.9 °  
Subregion (LRR or MLRA): LRR N Lat.: 40.09645 Long.: -82.40353 Datum: NAD 83  
Soil Map Unit Name: FcA - Fitchville silt loam, 0 to 2 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 to PEM wetland 103, wetland extends to south. Wetland drains to intermittent stream 115 to north 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 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 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: One primary and multiple secondary hydrology indicators present. Wetland drains to north by intermittent stream 115 that flows north outside study area to NHD-mapped stream that flows west to North Fork Licking River which flows east to Licking River which flows east to Muskingum River, a TNW			

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

Sampling Point: **w-ibl-20200602-03**

Tree Stratum (Plot size: <u>30' radius</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>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%	_____
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: <u>15' radius</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%	_____
5 = Total Cover			
Herb Stratum (Plot size: <u>5' radius</u> )			
1. <u>Juncus tenuis</u>	15	<input checked="" type="checkbox"/> 14.4%	FAC
2. <u>Carex scoparia</u>	15	<input checked="" type="checkbox"/> 14.4%	FACW
3. <u>Typha angustifolia</u>	15	<input checked="" type="checkbox"/> 14.4%	OBL
4. <u>Scirpus atrovirens</u>	15	<input checked="" type="checkbox"/> 14.4%	OBL
5. <u>Acorus americanus</u>	10	<input type="checkbox"/> 9.6%	OBL
6. <u>Carex annectens</u>	10	<input type="checkbox"/> 9.6%	FACW
7. <u>Carex lurida</u>	5	<input type="checkbox"/> 4.8%	OBL
8. <u>Carex tribuloides</u>	5	<input type="checkbox"/> 4.8%	FACW
9. <u>Eupatorium perfoliatum</u>	5	<input type="checkbox"/> 4.8%	FACW
10. <u>Elymus repens</u>	5	<input type="checkbox"/> 4.8%	FACU
11. <u>Packera aurea</u>	3	<input type="checkbox"/> 2.9%	FACW
12. <u>Asclepias syriaca</u>	1	<input type="checkbox"/> 1.0%	FACU
104 = Total Cover			
Woody Vine Stratum (Plot size: <u>15' radius</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: 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>45</u>	x 1 = <u>45</u>
FACW species <u>38</u>	x 2 = <u>76</u>
FAC species <u>15</u>	x 3 = <u>45</u>
FACU species <u>11</u>	x 4 = <u>44</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>109</u> (A)	<u>210</u> (B)
Prevalence Index = B/A = <u>1.927</u>	

**Hydrophytic Vegetation Indicators:**

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0** <sup>1</sup>

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

☐ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> 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.)

Other plants within wetland but not within data point were eleocharis palustris, phalaris arundinacea, onoclea sensibilis, potamogeton sp. Hydrophytic vegetation indicator present as dominance test &gt; 50%, dominant species are OBL, FACW, FAC and FACU

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

[illegible]



**Wetland 103**

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/2/2020

**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)

Field Id:

w-jbl-20200602-03

0.67 acres  
1**13** **15**

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)

**13.0** **28.0**

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 type="checkbox"/> road bed/RR track            |
| <input type="checkbox"/> weir             | <input checked="" type="checkbox"/> dredging          |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other:                       |

**12.5** **40.5**

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 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 checked="" type="checkbox"/> dredging              |
| <input checked="" type="checkbox"/> woody debris removal | <input type="checkbox"/> farming                          |
| <input type="checkbox"/> toxic pollutants                | <input type="checkbox"/> nutrient enrichment              |

**40.5**

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

# Wetland 103

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/2/2020

Field Id:

w-jbl-20200602-03

40.5

subtotal this page

0 40.5

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 42.5

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.

- ☐ Vegetated hummocks/tussocks
- ☐ 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

42.5 GRAND TOTAL(max 100 pts)

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 103</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing North	

<b>Wetland 103</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 103</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing South	

<b>Wetland 103</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing West	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 103</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 2  Soil Pit	



## WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmissin Line City/County: Licking County Sampling Date: 02-Jun-20  
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-20200602-04  
 Investigator(s): AEH, JBL Section, Township, Range: S T 2N R 12W  
 Landform (hillslope, terrace, etc.): Valley bottom Local relief (concave, convex, none): concave Slope: 0.0% / 0.0 °  
 Subregion (LRR or MLRA): LRR N Lat.: 40.09655 Long.: -82.404745 Datum: NAD 83  
 Soil Map Unit Name: FcA - Fitchville silt loam, 0 to 2 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 to PEM wetland 104, wetland extends to south. Wetland drains to ephemeral stream 116 to north 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 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 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>		
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>	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: One primary and multiple secondary hydrology indicators present. Wetland drains to north by ephemeral stream 116 that flows north outside study area to NHD-mapped stream that flows west to North Fork Licking River which flows east to Licking River which flows east to Muskingum River, a TNW			

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

Sampling Point: **w-ibl-20200602-04**

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. _____	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: <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>Acorus americanus</u>	70	<input checked="" type="checkbox"/> 61.9%	OBL
2. <u>Onoclea sensibilis</u>	15	<input type="checkbox"/> 13.3%	FACW
3. <u>Typha angustifolia</u>	5	<input type="checkbox"/> 4.4%	OBL
4. <u>Poa pratensis</u>	5	<input type="checkbox"/> 4.4%	FACU
5. <u>Eleocharis palustris</u>	5	<input type="checkbox"/> 4.4%	OBL
6. <u>Carex lurida</u>	5	<input type="checkbox"/> 4.4%	OBL
7. <u>Carex scoparia</u>	5	<input type="checkbox"/> 4.4%	FACW
8. <u>Scirpus atrovirens</u>	3	<input type="checkbox"/> 2.7%	OBL
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%	_____
113 = 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: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>88</u>	x 1 = <u>88</u>
FACW species <u>20</u>	x 2 = <u>40</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>5</u>	x 4 = <u>20</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>113</u> (A)	<u>148</u> (B)
Prevalence Index = B/A = <u>1.310</u>	

**Hydrophytic Vegetation Indicators:**

☒ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0**<sup>1</sup>

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

☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> 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 is OBL

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

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

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

Eastern Mountains and Piedmont - Version 2.0

## WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Transmissin Line City/County: Licking County Sampling Date: 02-Jun-20  
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-20200602-04  
 Investigator(s): AEH, JBL Section, Township, Range: S T 2N R 12W  
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): none Slope:        / 0.0 °  
 Subregion (LRR or MLRA): LRR N Lat.: 40.09656 Long.: -82.40468 Datum: NAD 83  
 Soil Map Unit Name: FcA - Fitchville silt loam, 0 to 2 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 out to wetland 104 and Wetland 103 (Upland 105), 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): <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' radius</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' radius</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: <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%	_____
= Total Cover			
Herb Stratum (Plot size: <u>5' radius</u> )			
1. <u>Bromus inermis</u>	45	<input checked="" type="checkbox"/> 56.3%	UPL
2. <u>Poa pratensis</u>	20	<input checked="" type="checkbox"/> 25.0%	FACU
3. <u>Phleum pratense</u>	15	<input type="checkbox"/> 18.8%	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%	_____
= Total Cover			
Woody Vine Stratum (Plot size: <u>15' radius</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: 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>35</u>	x 4 = <u>140</u>
UPL species <u>45</u>	x 5 = <u>225</u>
Column Totals: <u>80</u> (A)	<u>365</u> (B)
Prevalence Index = B/A = <u>4.563</u>	

**Hydrophytic Vegetation Indicators:**

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0**<sup>1</sup>

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

☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> 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 and UPL



[illegible]

**Wetland 104**

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/2/2020

Field Id:

w-jbl-20200602-04

**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)

0.17

acres

extends outside SA

**13** **14**

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)

**13.0** **27.0**

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 type="checkbox"/> road bed/RR track            |
| <input type="checkbox"/> weir             | <input checked="" type="checkbox"/> dredging          |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other:                       |

**12** **39**

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 checked="" type="checkbox"/> dredging              |
| <input checked="" type="checkbox"/> woody debris removal | <input type="checkbox"/> farming                          |
| <input type="checkbox"/> toxic pollutants                | <input type="checkbox"/> nutrient enrichment              |

**39**

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

## Wetland 104

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/2/2020

Field Id:

w-jbl-20200602-04

39

subtotal this page

0

39

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

40

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) 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.

- ☒ 1 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

Modified Category 2

40

GRAND TOTAL(max 100 pts)


<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 104</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing North	

<b>Wetland 104</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 104</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing South	

<b>Wetland 104</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 104</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 2  Soil Pit	

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: AEP-Crooksville-North Newark 138 kV Transmission Line Rebuild Project City/County: Licking County Sampling Date: 06/02/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-200602-01a  
 Investigator(s): AEH, JBL Section, Township, Range: T2N R12W QNE

Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): none

Slope (%): 0 Lat: 40.09548 Long: -82.41499 Datum: NAD 83

Soil Map Unit Name: St - Stonelick loam, occasionally flooded 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>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Sample point in for wetland 105a (w-jbl-20200602-01a), PFO component of larger PEM/PFO wetland complex. Wetland extends to north outside study area, drains to south downslope towards North Fork Licking River, potentially isolated.	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Ulmus rubra</u>	50	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. <u>Fraxinus pennsylvanica</u>	10	No	FACW																	
3. <u>Carya laciniosa</u>	10	No	FACW																	
4. <u>    </u>																				
5. <u>    </u>																				
	70	=Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>																				
1. <u>    </u>	0			<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>65</u></td> <td>x 2 = <u>130</u></td> </tr> <tr> <td>FAC species <u>55</u></td> <td>x 3 = <u>165</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>125</u> (A)</td> <td><u>315</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.52</u></td> </tr> </table>	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>55</u>	x 3 = <u>165</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>125</u> (A)	<u>315</u> (B)	Prevalence Index = B/A = <u>2.52</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
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3. <u>    </u>																				
4. <u>    </u>																				
5. <u>    </u>																				
		=Total Cover																		
<b>Herb Stratum (Plot size: <u>5'</u>)</b>																				
1. <u>Phalaris arundinacea</u>	15	Yes	FACW	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Verbesina alternifolia</u>	15	Yes	FACW																	
3. <u>Fraxinus pennsylvanica</u>	10	No	FACW																	
4. <u>Urtica dioica</u>	5	No	FACW																	
5. <u>Toxicodendron radicans</u>	5	No	FAC																	
6. <u>Oxalis corniculata</u>	5	No	FACU																	
7. <u>    </u>																				
8. <u>    </u>																				
9. <u>    </u>																				
10. <u>    </u>																				
	55	=Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>																				
1. <u>    </u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <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 FACW and FAC

<b>Profile Description:</b> (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 <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR 4/1	98	10yr 5/6	2	C	pl	Loamy/Clayey	Prominent redox concentrations
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.							<sup>2</sup> Location: PL=Pore Lining, M=Matrix.	
<b>Hydric Soil Indicators:</b>							<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> ? Coast Prairie Redox (A16)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> Iron-Manganese Masses (F12)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Red Parent Material (F21)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Dark Surface (S7)			<input type="checkbox"/> Very Shallow Dark Surface (F22)		
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Loamy Mucky Mineral (F1)			<input type="checkbox"/> Other (Explain in Remarks)		
<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)			<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<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)					
<b>Restrictive Layer (if observed):</b>								
Type: _____						<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Depth (inches): _____								
<b>Remarks:</b> 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. ( <a href="https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf">https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf</a> ). Hydric soil indicator present as low chroma and high value matrix with 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 checked="" 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 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 type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)		
<b>Field Observations:</b>		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Surface Water Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <input type="text" value="0.5"/>		
Water Table Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <input type="text"/>		
Saturation Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <input type="text"/>		
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			
One primary and multiple secondary hydrology indicators present. Primary source of hydrology is concentration of precipitation and surface runoff in geomorphic position. Wetland drains to south downslope outside study area towards north fork licking river, no obvious hydrologic connection present, potentially isolated.			

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: AEP-Crooksville-North Newark 138 kV Transmission Line Rebuild Project City/County: Licking County Sampling Date: 06/02/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-jbl-200602-01b  
 Investigator(s): AEH, JBL Section, Township, Range: T2N R12W QNE

Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): none

Slope (%): 0 Lat: 40.09518 Long: -82.414907 Datum: NAD 83

Soil Map Unit Name: St - Stonelick loam, occasionally flooded 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>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Sample point in for wetland 105b (w-jbl-20200602-01a), PEM component of larger PEM/PFO wetland complex. Wetland extends to south outside study area, drains to south downslope towards North Fork Licking River, potentially isolated.	

**VEGETATION – Use scientific names of plants.**

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">Tree Stratum</th> <th style="text-align: left;">(Plot size: <u>30'</u>)</th> <th style="text-align: center;">Absolute % Cover</th> <th style="text-align: center;">Dominant Species?</th> <th style="text-align: center;">Indicator Status</th> </tr> <tr><td>1.</td><td></td><td></td><td></td><td></td></tr> <tr><td>2.</td><td></td><td></td><td></td><td></td></tr> <tr><td>3.</td><td></td><td></td><td></td><td></td></tr> <tr><td>4.</td><td></td><td></td><td></td><td></td></tr> <tr><td>5.</td><td></td><td></td><td></td><td></td></tr> <tr><td colspan="2"></td><td colspan="3" style="text-align: right;">=Total Cover</td></tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">Sapling/Shrub Stratum</th> <th style="text-align: left;">(Plot size: <u>15'</u>)</th> <th style="text-align: center;">Absolute % Cover</th> <th style="text-align: center;">Dominant Species?</th> <th style="text-align: center;">Indicator Status</th> </tr> <tr><td>1.</td><td></td><td></td><td></td><td></td></tr> <tr><td>2.</td><td></td><td></td><td></td><td></td></tr> <tr><td>3.</td><td></td><td></td><td></td><td></td></tr> <tr><td>4.</td><td></td><td></td><td></td><td></td></tr> <tr><td>5.</td><td></td><td></td><td></td><td></td></tr> <tr><td colspan="2"></td><td colspan="3" style="text-align: right;">=Total Cover</td></tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">Herb Stratum</th> <th style="text-align: left;">(Plot size: <u>5'</u>)</th> <th style="text-align: center;">Absolute % Cover</th> <th style="text-align: center;">Dominant Species?</th> <th style="text-align: center;">Indicator Status</th> </tr> <tr><td>1.</td><td><u>Phalaris arundinacea</u></td><td style="text-align: center;">90</td><td style="text-align: center;">Yes</td><td style="text-align: center;">FACW</td></tr> <tr><td>2.</td><td><u>Persicaria pensylvanica</u></td><td style="text-align: center;">2</td><td style="text-align: center;">No</td><td style="text-align: center;">FACW</td></tr> <tr><td>3.</td><td></td><td></td><td></td><td></td></tr> <tr><td>4.</td><td></td><td></td><td></td><td></td></tr> <tr><td>5.</td><td></td><td></td><td></td><td></td></tr> <tr><td>6.</td><td></td><td></td><td></td><td></td></tr> <tr><td>7.</td><td></td><td></td><td></td><td></td></tr> <tr><td>8.</td><td></td><td></td><td></td><td></td></tr> <tr><td>9.</td><td></td><td></td><td></td><td></td></tr> <tr><td>10.</td><td></td><td></td><td></td><td></td></tr> <tr><td colspan="2"></td><td style="text-align: right;">92</td><td colspan="2" style="text-align: right;">=Total Cover</td></tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">Woody Vine Stratum</th> <th style="text-align: left;">(Plot size: <u>30'</u>)</th> <th style="text-align: center;">Absolute % Cover</th> <th style="text-align: center;">Dominant Species?</th> <th style="text-align: center;">Indicator Status</th> </tr> <tr><td>1.</td><td></td><td></td><td></td><td></td></tr> <tr><td>2.</td><td></td><td></td><td></td><td></td></tr> <tr><td colspan="2"></td><td colspan="3" style="text-align: right;">=Total Cover</td></tr> </table>	Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	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Sapling/Shrub Stratum	(Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																																																																																																																																																																																															
1.																																																																																																																																																																																																			
2.																																																																																																																																																																																																			
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5.																																																																																																																																																																																																			
		=Total Cover																																																																																																																																																																																																	
Herb Stratum	(Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																																																																																																																																																																																															
1.	<u>Phalaris arundinacea</u>	90	Yes	FACW																																																																																																																																																																																															
2.	<u>Persicaria pensylvanica</u>	2	No	FACW																																																																																																																																																																																															
3.																																																																																																																																																																																																			
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		92	=Total Cover																																																																																																																																																																																																
Woody Vine Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																																																																																																																																																																																															
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<b>Dominance Test worksheet:</b>																																																																																																																																																																																																			
Number of Dominant Species That Are OBL, FACW, or FAC:	<u>1</u> (A)																																																																																																																																																																																																		
Total Number of Dominant Species Across All Strata:	<u>1</u> (B)																																																																																																																																																																																																		
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100.0%</u> (A/B)																																																																																																																																																																																																		
<b>Prevalence Index worksheet:</b>																																																																																																																																																																																																			
Total % Cover of:	Multiply by:																																																																																																																																																																																																		
OBL species <u>0</u>	x 1 = <u>0</u>																																																																																																																																																																																																		
FACW species <u>92</u>	x 2 = <u>184</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>92</u> (A)	<u>184</u> (B)																																																																																																																																																																																																		
Prevalence Index = B/A = <u>2.00</u>																																																																																																																																																																																																			
<b>Hydrophytic Vegetation Indicators:</b>																																																																																																																																																																																																			
<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 <sup>1</sup>																																																																																																																																																																																																			
<u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)																																																																																																																																																																																																			
<u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)																																																																																																																																																																																																			
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																																																																																																																																																																																			
<b>Hydrophytic Vegetation Present?</b>																																																																																																																																																																																																			
Yes <u>X</u>	No <u>    </u>																																																																																																																																																																																																		
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation indicator present as rapid test, dominant species are FACW																																																																																																																																																																																																			

## SOIL

Sampling Point: -jbl-200602-0

[illegible]

## 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 type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" 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 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)		
<b>Field Observations:</b>			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
(includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			
One primary and multiple secondary hydrology indicators present. Primary source of hydrology is concentration of precipitation and surface runoff in geomorphic position. Wetland drains to south downslope outside study area towards north fork licking river, no obvious hydrologic connection present, potentially isolated.			



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>	<b>Is the Sampled Area within a Wetland?</b>	<b>Yes <u>      </u></b>	<b>No <u>  X  </u></b>
Hydric Soil Present?	Yes <u>      </u>	No <u>  X  </u>			
Wetland Hydrology Present?	Yes <u>      </u>	No <u>  X  </u>			
Remarks: Sample point out to wetland 105 (w-jbl-20200602-01), about 30' east of wetland boundary. Not a wetland point, hydric soil and hydrology criteria not met.					

**VEGETATION** – Use scientific names of plants.

Tree Stratum	(Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
5.				
		=Total Cover		
Sapling/Shrub Stratum	(Plot size: 15')			
1.				
2.				
3.				
4.				
5.				
		=Total Cover		
Herb Stratum	(Plot size: 5')			
1.	<i>Poa pratensis</i>	45	Yes	FAC
2.	<i>Phalaris arundinacea</i>	15	No	FACW
3.	<i>Dactylis glomerata</i>	15	No	FACU
4.	<i>Verbesina alternifolia</i>	10	No	FACW
5.				
6.				
7.				
8.				
9.				
10.				
		85	=Total Cover	
Woody Vine Stratum	(Plot size: 30')			
1.				
2.				
		=Total Cover		

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 25	x 2 = 50
FAC species 45	x 3 = 135
FACU species 15	x 4 = 60
UPL species 0	x 5 = 0
Column Totals: 85 (A)	245 (B)
Prevalence Index = B/A = 2.88	

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators 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 is FAC.

## SOIL

Sampling Point: pl-jbl-200602-

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 <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR 4/3	100					Loamy/Clayey	

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other (Explain in Remarks)
<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)	

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

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____ No <u>X</u>
---	---

Remarks:  
No hydric soil indicators present.

## 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 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 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)		

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u>
--	---

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

Remarks:  
No primary and one secondary hydrology indicators present.

**Wetland 105**

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/2/2020

**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)

**Field Id:****w-jbl-20200602-01**

0.65

acres

extends outside SA

**12** **14**

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)

**14.0** **28.0**

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 type="checkbox"/> road bed/RR track            |
| <input type="checkbox"/> weir             | <input checked="" type="checkbox"/> dredging          |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> Other:                       |

**12** **40**

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 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              |

**40**

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

## Wetland 105

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

6/2/2020

Field Id:

w-jbl-20200602-01

40

subtotal this page

0

40

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

41

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  
☐ 1 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  
☐ 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

Modified Category 2

41

GRAND TOTAL(max 100 pts)



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 105a</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PFO wetland  Category 2  Facing North	

<b>Wetland 105a</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PFO wetland  Category 2  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 105a</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PFO wetland  Category 2  Facing South	

<b>Wetland 105a</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 105a</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 2  Soil Pit	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 105b</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing North	

<b>Wetland 105b</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 105b</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing South	

<b>Wetland 105b</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 105b</b>	
<b>Date:</b> June 2, 2020	
<b>Description:</b>  PEM wetland  Category 2  Soil Pit	



## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 09/21/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-aeh-20200921-03  
 Investigator(s): AEH, WRL Section, Township, Range: Q NE T2N R12W

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave

Slope (%): 2 Lat: 40.09205 Long: -82.4152 Datum: NAD83

Soil Map Unit Name: Pg - Pits, gravel NWI classification: PUBGx

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

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

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

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

Hydrophytic Vegetation Present? Yes <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:

Sample point w-aeh-20200921-03 point in to PEM/PUB Wetland 106, on exposed shallow bottom PEM of old gravel pit pond. Soils disturbed due to past gravel excavations, rest of wetland is inundated. Within mapped 100-year floodplain of North Fork Licking River separated from river by narrow

### VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30' radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</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' radius</u> )				<b>Prevalence Index worksheet:</b> <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>16</u></td> <td>x 1 = <u>16</u></td> </tr> <tr> <td>FACW species <u>82</u></td> <td>x 2 = <u>164</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>113</u> (A)</td> <td><u>225</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>1.99</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>16</u>	x 1 = <u>16</u>	FACW species <u>82</u>	x 2 = <u>164</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>113</u> (A)	<u>225</u> (B)	Prevalence Index = B/A = <u>1.99</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>16</u>	x 1 = <u>16</u>																				
FACW species <u>82</u>	x 2 = <u>164</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>113</u> (A)	<u>225</u> (B)																				
Prevalence Index = B/A = <u>1.99</u>																					
1. <u>Populus deltoides</u>		<u>15</u>	<u>Yes</u>	<u>FAC</u>																	
2. <u>Platanus occidentalis</u>		<u>5</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Salix interior</u>		<u>2</u>	<u>No</u>	<u>FACW</u>																	
4. <u>    </u>																					
5. <u>    </u>																					
		<u>22</u> =Total Cover																			
Herb Stratum	(Plot size: <u>5' radius</u> )				<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Panicum dichotomiflorum</u>		<u>60</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Lycopus americanus</u>		<u>10</u>	<u>No</u>	<u>OBL</u>																	
3. <u>Lysimachia ciliata</u>		<u>10</u>	<u>No</u>	<u>FACW</u>																	
4. <u>Symphotrichum lateriflorum</u>		<u>5</u>	<u>No</u>	<u>FACW</u>																	
5. <u>Schoenoplectus tabernaemontani</u>		<u>3</u>	<u>No</u>	<u>OBL</u>																	
6. <u>Eupatorium perfoliatum</u>		<u>3</u>	<u>No</u>	<u>OBL</u>																	
7. <u>    </u>																					
8. <u>    </u>																					
9. <u>    </u>																					
10. <u>    </u>																					
		<u>91</u> =Total Cover																			
Woody Vine Stratum	(Plot size: <u>30' radius</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>    </u>																
1. <u>    </u>		<u>0</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 FACW and FAC

## SOIL

Sampling Point: ieh-20200921

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 <sup>1</sup>	Loc <sup>2</sup>		
0-1	2.5Y 3/2	100					Sandy	
1-6	2.5Y 5/2	90	10YR 4/6	10	C	pl	Sandy	Prominent redox concentrations
6-12	2.5Y 4/2	60	2.5Y 5/6	40	c	m	Sandy	Prominent redox concentrations

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils <sup>3</sup> :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> ? Coast Prairie Redox (A16)	
<input type="checkbox"/> Histic Epipedon (A2)	<input checked="" type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Iron-Manganese Masses (F12)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> ? Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> Very Shallow Dark Surface (F22)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Other (Explain in Remarks)	
<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)		

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

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> 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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 Hydric soil indicators present as low chroma/high value matrix with prominent redox features 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 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 type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input checked="" 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 checked="" 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)		

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> 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. Wetland located in mostly inundated gravel pit abutting North Fork Licking River that drains east to Licking River that drains east to Muskingum River, a TNW. Primary sources of hydrology are groundwater and overbank flow from North Fork Licking River.

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 09/21/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-aeh-20200921-03  
 Investigator(s): AEH, WRL Section, Township, Range: Q NE T2N R12W  
 Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): none  
 Slope (%): 0 Lat: 40.09159 Long: -82.41491 Datum: NAD83  
 Soil Map Unit Name: Pg - Pits, gravel 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 x, 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>    </u> No <u>X</u> Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u>
Remarks: Upland 108 sample point w-aeh-20200921-03, point out to Wetland 106, about 30' south of wetland past berm in floodplain forest. Soils disturbed due to past gravel excavations. Not a wetland point as hydric soil and hydrology criteria not met.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Populus deltoides</u>	30	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>57.1%</u> (A/B)																
2. <u>Platanus occidentalis</u>	10	No	FACW																	
3. <u>Ulmus americana</u>	10	No	FACW																	
4. <u>Juglans nigra</u>	5	No	FACU																	
5. <u>    </u>	55	=Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15' radius</u>)</b>				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">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>35</u></td> <td>x 2 = <u>70</u></td> </tr> <tr> <td>FAC species <u>40</u></td> <td>x 3 = <u>120</u></td> </tr> <tr> <td>FACU species <u>50</u></td> <td>x 4 = <u>200</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>125</u> (A)</td> <td><u>390</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.12</u></td> </tr> </tbody> </table>	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>40</u>	x 3 = <u>120</u>	FACU species <u>50</u>	x 4 = <u>200</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>125</u> (A)	<u>390</u> (B)	Prevalence Index = B/A = <u>3.12</u>	
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>40</u>	x 3 = <u>120</u>																			
FACU species <u>50</u>	x 4 = <u>200</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>125</u> (A)	<u>390</u> (B)																			
Prevalence Index = B/A = <u>3.12</u>																				
1. <u>Cornus florida</u>	20	Yes	FACU																	
2. <u>Asimina triloba</u>	10	Yes	FAC																	
3. <u>Lonicera morrowii</u>	10	Yes	FACU																	
4. <u>Platanus occidentalis</u>	5	No	FACW																	
5. <u>    </u>	45	=Total Cover																		
<b>Herb Stratum (Plot size: <u>5' radius</u>)</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Ageratina altissima</u>	15	Yes	FACU																	
2. <u>Verbesina alternifolia</u>	5	Yes	FACW																	
3. <u>Laportea canadensis</u>	5	Yes	FACW																	
4. <u>    </u>																				
5. <u>    </u>																				
6. <u>    </u>																				
7. <u>    </u>																				
8. <u>    </u>																				
9. <u>    </u>																				
10. <u>    </u>	25	=Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>    </u>																
1. <u>    </u>	0																			
2. <u>    </u>																				
<b>Remarks: (Include photo numbers here or on a separate sheet.)</b> Hydrophytic vegetation indicator present as dominance test is > 50%, dominant species are FACW, FAC and FACU																				

## SOIL

Sampling Point: aeh-2020092

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 <sup>1</sup>	Loc <sup>2</sup>		
0-3	7.5YR 4/3	100					Loamy/Clayey	
3-17	7.5YR 4/2	95	7.5YR 3/1	5	D	M	Loamy/Clayey	

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils <sup>3</sup> :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Iron-Manganese Masses (F12)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> Very Shallow Dark Surface (F22)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Other (Explain in Remarks)	
<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)		

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

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____ No <u>X</u>
---	---

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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 No hydric soil indicators present, low chroma/low value matrix without redox concentrations

## 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 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 checked="" 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)		

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes _____    No <u>X</u>
---	--

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

Remarks:  
 One secondary hydrology indicator present. Point out located in floodplain of Stream 117

# Wetland 106ab

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

9/21/2020

Field Id:

w-aeh-20200921-03

3 3

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)

3.50 acres  
extends outside survey area

8 11

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)

22.0 33.0

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 checked="" 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:                                  |

9 42

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 checked="" type="checkbox"/> farming               |
| <input type="checkbox"/> toxic pollutants                | <input type="checkbox"/> nutrient enrichment              |

42

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating



## Wetland 106ab

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

9/21/2020

Field Id:

w-aeH-20200921-03

42

subtotal this page

0

42

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)

6

48

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
- ☐ 1 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
- ☐ 1 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 2

48

GRAND TOTAL(max 100 pts)

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 106a</b>	
<b>Date:</b> September 21, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing North	

<b>Wetland 106a</b>	
<b>Date:</b> September 21, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 106a</b>	
<b>Date:</b> September 21, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing South	

<b>Wetland 106a</b>	
<b>Date:</b> September 21, 2020	
<b>Description:</b>  PEM wetland  Category 2  Facing West	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 106a</b>	
<b>Date:</b> September 21, 2020	
<b>Description:</b>  PEM wetland  Category 2  Soil Pit	



## WETLAND DETERMINATION DATA FORM – Midwest Region

Wetland 107

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 09/21/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-aeh-20200921-02  
 Investigator(s): AEH, WRL Section, Township, Range: Q NE T2N R12W  
 Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave  
 Slope (%): 0 Lat: 40.09098 Long: -82.41527 Datum: NAD83  
 Soil Map Unit Name: Pg - Pits, gravel 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 x, 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: Sample point w-aeh-20200921-02 point in to PEM Wetland 107. Soils disturbed due to past gravel excavations. Wetland in dry pond depression, fully delineated, drains to east to stream 118 outside of study area, within mapped 100-year floodplain of North Fork Licking River.	

**VEGETATION – Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30' radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
5.				
		=Total Cover		
Sapling/Shrub Stratum	(Plot size: <u>15' radius</u> )			
1.				
2.				
3.				
4.				
5.				
		=Total Cover		
Herb Stratum	(Plot size: <u>5' radius</u> )			
1.	<u>Justicia americana</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>
2.	<u>Phalaris arundinacea</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>
3.	<u>Cyperus strigosus</u>	<u>1</u>	<u>No</u>	<u>FACW</u>
4.	<u>Echinochloa crus-galli</u>	<u>1</u>	<u>No</u>	<u>FACW</u>
5.				
6.				
7.				
8.				
9.				
10.				
		<u>32</u> =Total Cover		
Woody Vine Stratum	(Plot size: <u>30'</u> )			
1.		<u>0</u>		
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>20</u>	x 1 = <u>20</u>
FACW species <u>12</u>	x 2 = <u>24</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>32</u> (A)	<u>44</u> (B)
Prevalence Index = B/A = <u>1.38</u>	

**Hydrophytic Vegetation Indicators:**  
x 1 - Rapid Test for Hydrophytic Vegetation  
X 2 - Dominance Test is >50%  
X 3 - Prevalence Index is ≤3.0<sup>1</sup>  
     4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
     Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators 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 rapid test, dominant species are OBL and FACW



## SOIL

Sampling Point: ieh-20200921

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 <sup>1</sup>	Loc <sup>2</sup>		
0-5	10YR 2/1	90	10YR 4/1	10	RM	m	Loamy/Clayey	
5-16	10YR 2/1	80	10YR 4/4	20	c	pl	Loamy/Clayey	Distinct redox concentrations
16-19	10YR 3/4	100					Loamy/Clayey	

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

<b>Hydric Soil Indicators:</b> <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 checked="" 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)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <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)  <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
--	---

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
Hydric soil indicators present as low chroma/low value matrix with distinct redox features in pore linings

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>			
<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 checked="" 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 type="checkbox"/> Drift Deposits (B3)	<input checked="" 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 checked="" 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)		

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> 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. Wetland located in dry pond, drains to east by intermittent stream 118 to North Fork Licking River that drains east to Licking River that drains east to Muskingum River, a TNW. Primary sources of hydrology are concentration of rainfall and surface runoff and overbank flow from North Fork Licking River.

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 09/21/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-aeh-20200921-02  
 Investigator(s): AEH, WRL Section, Township, Range: Q NE T2N R12W  
 Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): convex  
 Slope (%): 2 Lat: 40.0912 Long: -82.41521 Datum: NAD83  
 Soil Map Unit Name: Pg - Pits, gravel 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 x, Soil x, 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>    </u>	Is the Sampled Area within a Wetland? Yes <u>    </u> No <u>X</u>
Hydric Soil Present? Yes <u>    </u> No <u>    </u>	
Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	
Remarks: Sample point w-aeh-20200921-02 point out to Wetland 107, about 30' north of boundary past berm/dike/dam. Soils disturbed due to past gravel excavations, vegetation disturbed by regular ROW maintenance. Not a wetland point as no criteria met.	

## VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30' radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</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>50.0%</u> (A/B)																
1.																					
2.																					
3.																					
4.																					
5.																					
		=Total Cover																			
Sapling/Shrub Stratum	(Plot size: <u>15' radius</u> )				<b>Prevalence Index worksheet:</b> <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>35</u></td> <td>x 2 = <u>70</u></td> </tr> <tr> <td>FAC species <u>3</u></td> <td>x 3 = <u>9</u></td> </tr> <tr> <td>FACU species <u>66</u></td> <td>x 4 = <u>264</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>104</u> (A)</td> <td><u>343</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.30</u></td> </tr> </tbody> </table>	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>3</u>	x 3 = <u>9</u>	FACU species <u>66</u>	x 4 = <u>264</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>104</u> (A)	<u>343</u> (B)	Prevalence Index = B/A = <u>3.30</u>	
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>3</u>	x 3 = <u>9</u>																				
FACU species <u>66</u>	x 4 = <u>264</u>																				
UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>104</u> (A)	<u>343</u> (B)																				
Prevalence Index = B/A = <u>3.30</u>																					
1. <u>Robinia pseudoacacia</u>	<u>2</u>	No	FACU																		
2.																					
3.																					
4.																					
5.																					
		=Total Cover																			
Herb Stratum	(Plot size: <u>5' radius</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Bromus inermis</u>	<u>40</u>	Yes	FACU																		
2. <u>Verbesina alternifolia</u>	<u>30</u>	Yes	FACW																		
3. <u>Ageratina altissima</u>	<u>20</u>	No	FACU																		
4. <u>Agrimonia parviflora</u>	<u>5</u>	No	FACW																		
5. <u>Triodanis perfoliata</u>	<u>3</u>	No	FAC																		
6. <u>Solidago canadensis</u>	<u>2</u>	No	FACU																		
7. <u>Dipsacus fullonum</u>	<u>2</u>	No	FACU																		
8.																					
9.																					
10.																					
		=Total Cover																			
Woody Vine Stratum	(Plot size: <u>30'</u> )				<b>Hydrophytic Vegetation</b> Present? Yes <u>    </u> No <u>    </u>																
1.																					
2.																					
		=Total Cover																			
Remarks: (Include photo numbers here or on a separate sheet.) No hydrophytic vegetation indicators present as dominance test is not > 50%, dominant species are FACW and FACU, and prevalence index > 3.0																					

## SOIL

Sampling Point: aeh-2020092

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 <sup>1</sup>	Loc <sup>2</sup>		
0-5	10YR 4/3	100					Loamy/Clayey	
5-15	7.5YR 4/3	100					Loamy/Clayey	

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

<b>Hydric Soil Indicators:</b> <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 \_\_\_\_\_

**Indicators for Problematic Hydric Soils<sup>3</sup>:**  
☐ Coast Prairie Redox (A16)  
☐ Iron-Manganese Masses (F12)  
☐ Red Parent Material (F21)  
☐ Very Shallow Dark Surface (F22)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators 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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 No hydric soil indicators present. Soils disturbed, no soil depletion present.

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>			
<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)		

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes _____    No <u>  X  </u>
---	--

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

Remarks:  
 No hydrology indicators present.

# Wetland 107

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

9/21/2020

Field Id:

w-aeh-20200921-02

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)

0.07 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)

9.0 13.0

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 checked="" 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:                                  |

9 22

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 checked="" type="checkbox"/> woody debris removal | <input checked="" type="checkbox"/> farming               |
| <input type="checkbox"/> toxic pollutants                | <input type="checkbox"/> nutrient enrichment              |

22

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating



## Wetland 107

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

9/21/2020

Field Id:

w-aeH-20200921-02

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)

0

22

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

22 GRAND TOTAL(max 100 pts)

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 107</b>	
<b>Date:</b> September 21, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing North	

<b>Wetland 107</b>	
<b>Date:</b> September 21, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 107</b>	
<b>Date:</b> September 21, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing South	

<b>Wetland 107</b>	
<b>Date:</b> September 21, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing West	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 107</b>	
<b>Date:</b> September 21, 2020	
<b>Description:</b>  PEM wetland  Category 1  Soil Pit	

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 09/21/2020  
 Applicant/Owner: AEP State: OH Sampling Point: w-aeh-20200921-01  
 Investigator(s): AEH, WRL Section, Township, Range: Q NE T2N R12W  
 Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): concave  
 Slope (%): 1 Lat: 40.08949 Long: -82.41531 Datum: NAD83  
 Soil Map Unit Name: Pg - Pits, gravel 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 x, Soil x, 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>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks: Sample point w-aeh-20200921-01 point in to PEM Wetland 108. Soils disturbed due to past gravel excavations, vegetation disturbed by regular ROW maintenance. Wetland extends to east, within mapped 100-year floodplain of North Fork Licking River.	

**VEGETATION – Use scientific names of plants.**

<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Tree Stratum (Plot size: <u>30' radius</u>)</th> <th style="text-align: center;">Absolute % Cover</th> <th style="text-align: center;">Dominant Species?</th> <th style="text-align: center;">Indicator Status</th> </tr> </thead> <tbody> <tr><td>1. <u>Populus deltoides</u></td><td style="text-align: center;">20</td><td style="text-align: center;">Yes</td><td style="text-align: center;">FAC</td></tr> <tr><td>2. <u>Salix interior</u></td><td style="text-align: center;">2</td><td style="text-align: center;">No</td><td style="text-align: center;">FACW</td></tr> <tr><td>3. <u>    </u></td><td></td><td></td><td></td></tr> <tr><td>4. <u>    </u></td><td></td><td></td><td></td></tr> <tr><td>5. <u>    </u></td><td></td><td></td><td></td></tr> <tr><td colspan="2" style="text-align: right;">22 = Total Cover</td><td></td><td></td></tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Sapling/Shrub Stratum (Plot size: <u>15' radius</u>)</th> <th style="text-align: center;">Absolute % Cover</th> <th style="text-align: center;">Dominant Species?</th> <th style="text-align: center;">Indicator Status</th> </tr> </thead> <tbody> <tr><td>1. <u>Salix interior</u></td><td style="text-align: center;">5</td><td style="text-align: center;">Yes</td><td style="text-align: center;">FACW</td></tr> <tr><td>2. <u>Pyrus calleryana</u></td><td style="text-align: center;">5</td><td style="text-align: center;">Yes</td><td style="text-align: center;">UPL</td></tr> <tr><td>3. <u>Ulmus americana</u></td><td style="text-align: center;">3</td><td style="text-align: center;">Yes</td><td style="text-align: center;">FACW</td></tr> <tr><td>4. <u>Lonicera morrowii</u></td><td style="text-align: center;">2</td><td style="text-align: center;">No</td><td style="text-align: center;">FACU</td></tr> <tr><td>5. <u>    </u></td><td></td><td></td><td></td></tr> <tr><td colspan="2" style="text-align: right;">15 = Total Cover</td><td></td><td></td></tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Herb Stratum (Plot size: <u>5' radius</u>)</th> <th style="text-align: center;">Absolute % Cover</th> <th style="text-align: center;">Dominant Species?</th> <th style="text-align: center;">Indicator Status</th> </tr> </thead> <tbody> <tr><td>1. <u>Equisetum hyemale</u></td><td style="text-align: center;">70</td><td style="text-align: center;">Yes</td><td style="text-align: center;">FACW</td></tr> <tr><td>2. <u>Ageratina altissima</u></td><td style="text-align: center;">10</td><td style="text-align: center;">No</td><td style="text-align: center;">FACU</td></tr> <tr><td>3. <u>Dipsacus fullonum</u></td><td style="text-align: center;">5</td><td style="text-align: center;">No</td><td style="text-align: center;">FACU</td></tr> <tr><td>4. <u>Eupatorium serotinum</u></td><td style="text-align: center;">2</td><td style="text-align: center;">No</td><td style="text-align: center;">FAC</td></tr> <tr><td>5. <u>    </u></td><td></td><td></td><td></td></tr> <tr><td>6. <u>    </u></td><td></td><td></td><td></td></tr> <tr><td>7. <u>    </u></td><td></td><td></td><td></td></tr> <tr><td>8. <u>    </u></td><td></td><td></td><td></td></tr> <tr><td>9. <u>    </u></td><td></td><td></td><td></td></tr> <tr><td>10. <u>    </u></td><td></td><td></td><td></td></tr> <tr><td colspan="2" style="text-align: right;">87 = Total Cover</td><td></td><td></td></tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Woody Vine Stratum (Plot size: <u>30'</u>)</th> <th style="text-align: center;">Absolute % Cover</th> <th style="text-align: center;">Dominant Species?</th> <th style="text-align: center;">Indicator Status</th> </tr> </thead> <tbody> <tr><td>1. <u>    </u></td><td style="text-align: center;">0</td><td></td><td></td></tr> <tr><td>2. <u>    </u></td><td></td><td></td><td></td></tr> <tr><td colspan="2" style="text-align: right;">= Total Cover</td><td></td><td></td></tr> </tbody> </table>	Tree Stratum (Plot size: <u>30' radius</u> )	Absolute % Cover	Dominant Species?	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## 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 <sup>1</sup>	Loc <sup>2</sup>		
0-5	10YR 4/2	100					Loamy/Clayey	
5-6	10YR 6/2	95	10YR 4/3	5	c	pl	Loamy/Clayey	Faint redox concentrations
6-11	10YR 3/2	95	10YR 4/4	5	c	pl	Loamy/Clayey	Distinct redox concentrations
11-16	10YR 4/2	98	10YR 4/4	2	c	pl	Loamy/Clayey	Distinct redox concentrations

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils <sup>3</sup> :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> ? Coast Prairie Redox (A16)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Iron-Manganese Masses (F12)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> Very Shallow Dark Surface (F22)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Other (Explain in Remarks)	
<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 checked="" 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)		

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

Restrictive Layer (if observed):	Hydric Soil Present?
Type: _____ Depth (inches): _____	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
Hydric soil indicators present as low chroma/low value matrix with distinct redox features 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 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 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 checked="" 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:				Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	0	
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)

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

Remarks:  
Multiple primary and secondary hydrology indicators present. Wetland located in drainage swale, drains gravel pit area from west to east to North Fork Licking River that drains east to Licking River that drains east to Muskingum River, a TNW. Primary sources of hydrology are concentration of rainfall and surface runoff and overbank flow from North Fork Licking River.

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 09/21/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-aeh-20200921-01  
 Investigator(s): AEH, WRL Section, Township, Range: Q NE T2N R12W  
 Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): none  
 Slope (%): 0 Lat: 40.0897 Long: -82.41551 Datum: NAD83  
 Soil Map Unit Name: Pg - Pits, gravel 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 x, Soil x, 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>    </u> Hydric Soil Present? Yes <u>    </u> No <u>    </u> Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u>
Remarks: Sample point w-aeh-20200921-01 point out to Wetland 108, about 20' north of boundary next to existing structure and Phragmites patch. Soils disturbed due to past gravel excavations, vegetation disturbed by regular ROW maintenance. Not a wetland point as no criteria met	

### VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30' radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)																																
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1.	<u><i>Pyrus calleryana</i></u>	<u>2</u>	<u>No</u>	<u>UPL</u>	<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Total % Cover of:</th> <th style="width: 10%;"></th> <th style="width: 10%;">Multiply by:</th> <th style="width: 40%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td><u>0</u></td> <td>x 1 =</td> <td><u>0</u></td> </tr> <tr> <td>FACW species</td> <td><u>47</u></td> <td>x 2 =</td> <td><u>94</u></td> </tr> <tr> <td>FAC species</td> <td><u>0</u></td> <td>x 3 =</td> <td><u>0</u></td> </tr> <tr> <td>FACU species</td> <td><u>50</u></td> <td>x 4 =</td> <td><u>200</u></td> </tr> <tr> <td>UPL species</td> <td><u>2</u></td> <td>x 5 =</td> <td><u>10</u></td> </tr> <tr> <td>Column Totals:</td> <td><u>99</u> (A)</td> <td></td> <td><u>304</u> (B)</td> </tr> <tr> <td colspan="4">Prevalence Index = B/A = <u>3.07</u></td> </tr> </tbody> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>47</u>	x 2 =	<u>94</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>50</u>	x 4 =	<u>200</u>	UPL species	<u>2</u>	x 5 =	<u>10</u>	Column Totals:	<u>99</u> (A)		<u>304</u> (B)	Prevalence Index = B/A = <u>3.07</u>			
Total % Cover of:		Multiply by:																																			
OBL species	<u>0</u>	x 1 =	<u>0</u>																																		
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Prevalence Index = B/A = <u>3.07</u>																																					
2.																																					
3.																																					
4.																																					
5.																																					
		=Total Cover																																			
<b>Herb Stratum</b> (Plot size: <u>5' radius</u> )																																					
1.	<u><i>Phragmites australis</i></u>	<u>40</u>	<u>Yes</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																
2.	<u><i>Ageratina altissima</i></u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>																																	
3.	<u><i>Bromus inermis</i></u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>																																	
4.	<u><i>Equisetum hyemale</i></u>	<u>5</u>	<u>No</u>	<u>FACW</u>																																	
5.																																					
6.																																					
7.																																					
8.																																					
9.																																					
10.																																					
		=Total Cover																																			
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )																																					
1.	<u><i>Vitis riparia</i></u>	<u>2</u>	<u>No</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Present?</b> Yes <u>    </u> No <u>    </u>																																
2.																																					
		=Total Cover																																			
Remarks: (Include photo numbers here or on a separate sheet.) No hydrophytic vegetation indicators present as dominance test is not > 50%, dominant species are FACW and FACU																																					

## SOIL

Sampling Point: aeh-2020092

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 <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 3/3	100					Loamy/Clayey	
4-6	10YR 4/4	100					Sandy	

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

<b>Hydric Soil Indicators:</b> <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 \_\_\_\_\_

**Indicators for Problematic Hydric Soils<sup>3</sup>:**  
☐ Coast Prairie Redox (A16)  
☐ Iron-Manganese Masses (F12)  
☐ Red Parent Material (F21)  
☐ Very Shallow Dark Surface (F22)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators 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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 No hydric soil indicators present. Shovel refusal at 6" due to gravel. Soils obviously disturbed, no soil depletion present.

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>			
<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)		

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes _____ No <u>  X  </u>
--	---

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

Remarks:  
 No hydrology indicators present.

## Wetland 108

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

9/21/2020

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-20200921-01

0.07 acres

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)

8.0 13.0

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 checked="" 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:                                  |

8 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 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 checked="" 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 108

Site: Crooksville- Newark Project

Rater(s): Audrey Hanner

Date:

9/21/2020

Field Id:

w-aeH-20200921-01

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.

- ☐ Vegetated hummocks/tussocks
- ☐ 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

Category 1

23

GRAND TOTAL(max 100 pts)

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 108</b>	
<b>Date:</b> September 21, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing North	

<b>Wetland 108</b>	
<b>Date:</b> September 21, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing East	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 108</b>	
<b>Date:</b> September 21, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing South	

<b>Wetland 108</b>	
<b>Date:</b> September 21, 2020	
<b>Description:</b>  PEM wetland  Category 1  Facing West	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110
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<b>Wetland 108</b>	
<b>Date:</b> September 21, 2020	
<b>Description:</b>  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: Muskingum Sampling Date: 01-Jun-20  
 Applicant/Owner: AEP State: OH Sampling Point: upl-bl-20200601-06  
 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: 15.0 % / 86.2 °  
 Subregion (LRR or MLRA): LRR N Lat.: 39.82233 Long.: -82.15868 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 022 (w-bl-20200601-05). Not a wetland point as hydrophytic vegetation, 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>Prunus serotina</u>	5	<input checked="" type="checkbox"/> 62.5%	FACU
2. <u>Elaeagnus umbellata</u>	3	<input checked="" type="checkbox"/> 37.5%	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%	_____
= Total Cover			
Shrub Stratum (Plot size: _____ )	8		
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 amphibola</u>	10	<input checked="" type="checkbox"/> 20.0%	FAC
2. <u>Valerianella umbilicata</u>	10	<input checked="" type="checkbox"/> 20.0%	FAC
3. <u>Agrostis gigantea</u>	10	<input checked="" type="checkbox"/> 20.0%	FACW
4. <u>Achillea millefolium</u>	10	<input checked="" type="checkbox"/> 20.0%	FACU
5. <u>Verbesina alternifolia</u>	5	<input type="checkbox"/> 10.0%	FAC
6. <u>Rubus allegheniensis</u>	3	<input type="checkbox"/> 6.0%	FACU
7. <u>Urtica dioica</u>	2	<input type="checkbox"/> 4.0%	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%	_____
= Total Cover			
Woody Vine Stratum (Plot size: _____ )	50		
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: 6 (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>10</u>	x 2 = <u>20</u>
FAC species <u>25</u>	x 3 = <u>75</u>
FACU species <u>20</u>	x 4 = <u>80</u>
UPL species <u>3</u>	x 5 = <u>15</u>
Column Totals: <u>58</u> (A)	<u>190</u> (B)
Prevalence Index = B/A = <u>3.276</u>	

**Hydrophytic Vegetation Indicators:**

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is **≤3.0** <sup>1</sup>

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

☐ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> 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.

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

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

<sup>1</sup> Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Location: 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<sup>3</sup>:

- ☐ 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)

<sup>3</sup> 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 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-20200601-04  
 Investigator(s): BL, SKM Section, Township, Range: S 35 T 17N R 15W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): flat Slope: 2.0 % / 63.4 °  
 Subregion (LRR or MLRA): LRR N Lat.: 39.82617 Long.: -82.16328 Datum: NAD83  
 Soil Map Unit Name: Lk - Lindside silt loam, 0 to 3 percent slopes, occasionally 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 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 taken in potential wet meadow on terrace above s-bl-20200601-06. Area investigated for wetland conditions, not a wetland area 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 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 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 primary and one secondary hydrology indicator present.			



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

Sampling Point: **upl-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. _____	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>Agrostis gigantea</u>	20	<input checked="" type="checkbox"/> 29.0%	FACW
2. <u>Poa pratensis</u>	15	<input checked="" type="checkbox"/> 21.7%	FACU
3. <u>Elymus virginicus</u>	10	<input type="checkbox"/> 14.5%	FACW
4. <u>Trifolium pratense</u>	10	<input type="checkbox"/> 14.5%	FACU
5. <u>Carex alata</u>	5	<input type="checkbox"/> 7.2%	OBL
6. <u>Dactylis glomerata</u>	5	<input type="checkbox"/> 7.2%	FACU
7. <u>Achillea millefolium</u>	2	<input type="checkbox"/> 2.9%	FACU
8. <u>Vernonia gigantea</u>	2	<input type="checkbox"/> 2.9%	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%	_____
= 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%	_____
= 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: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>5</u>	x 1 = <u>5</u>
FACW species <u>30</u>	x 2 = <u>60</u>
FAC species <u>2</u>	x 3 = <u>6</u>
FACU species <u>32</u>	x 4 = <u>128</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>69</u> (A)	<u>199</u> (B)
Prevalence Index = B/A = <u>2.884</u>	

**Hydrophytic Vegetation Indicators:**

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0**<sup>1</sup>

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

☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> 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 prevalence test < 3.0

\*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: Perry Sampling Date: 02-Jun-20  
 Applicant/Owner: AEP State: OH Sampling Point: upl-bl-20200602-05  
 Investigator(s): BL, SKM Section, Township, Range: S 27 T 17N R 15W  
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave Slope: 5.0 % / 78.7 °  
 Subregion (LRR or MLRA): LRR N Lat.: 39.83887 Long.: -82.18486 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 type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Upland 033, suspicious swale area investigated for wetland criteria. Not a wetland point as 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 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: No hydrology indicators present.			

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

Sampling Point: **upl-bl-20200602-05**

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. Fraxinus pennsylvanica	5	<input checked="" type="checkbox"/> 50.0%	FACW
2. Quercus rubra	3	<input checked="" type="checkbox"/> 30.0%	FACU
3. Ulmus americana	2	<input checked="" type="checkbox"/> 20.0%	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%	_____
= 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. Poa palustris	30	<input checked="" type="checkbox"/> 27.3%	FACW
2. Impatiens pallida	30	<input checked="" type="checkbox"/> 27.3%	FACW
3. Dichanthelium clandestinum	20	<input type="checkbox"/> 18.2%	FAC
4. Alliaria petiolata	10	<input type="checkbox"/> 9.1%	FACU
5. Euthamia graminifolia	10	<input type="checkbox"/> 9.1%	FAC
6. Onoclea sensibilis	5	<input type="checkbox"/> 4.5%	FACW
7. Polystichum acrostichoides	5	<input type="checkbox"/> 4.5%	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%	_____
= 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%	_____
= 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>72</u>	x 2 = <u>144</u>
FAC species <u>30</u>	x 3 = <u>90</u>
FACU species <u>18</u>	x 4 = <u>72</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>120</u> (A)	<u>306</u> (B)
Prevalence Index = B/A = <u>2.550</u>	

**Hydrophytic Vegetation Indicators:**

☐ Rapid Test for Hydrophytic Vegetation

☒ Dominance Test is > 50%

☒ Prevalence Index is **≤3.0** <sup>1</sup>

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

☐ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)

<sup>1</sup> 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.

\*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 <sup>1</sup>	Loc <sup>2</sup>		
0-2	10YR	5/4	100						Sandy Loam	
2-12	2.5Y	4/3	80	10YR	4/6	20	C	M	Sandy Clay Loam	

<sup>1</sup> Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Location: 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<sup>3</sup>:

- ☐ 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)

<sup>3</sup> 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 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-20200603-06  
 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 (%): 1 Lat: 39.84543 Long: -82.192039 Datum: WGS 84  
 Soil Map Unit Name: Km - Killbuck silt loam, frequently flooded 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: Upland 039 located on RDB floodplain of intermittent stream 042 investigated for wetland criteria. 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	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>9</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>44.4%</u> (A/B)																
1. <u>Juglans nigra</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Prunus serotina</u>	<u>15</u>	<u>Yes</u>	<u>FACU</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>35</u> =Total Cover				<b>Prevalence Index worksheet:</b> <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>30</u></td> <td>x 1 = <u>30</u></td> </tr> <tr> <td>FACW species <u>25</u></td> <td>x 2 = <u>50</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>73</u></td> <td>x 4 = <u>292</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>153</u> (A)</td> <td><u>457</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.99</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>30</u>	x 1 = <u>30</u>	FACW species <u>25</u>	x 2 = <u>50</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>73</u>	x 4 = <u>292</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>153</u> (A)	<u>457</u> (B)	Prevalence Index = B/A = <u>2.99</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>30</u>	x 1 = <u>30</u>																			
FACW species <u>25</u>	x 2 = <u>50</u>																			
FAC species <u>20</u>	x 3 = <u>60</u>																			
FACU species <u>73</u>	x 4 = <u>292</u>																			
UPL species <u>5</u>	x 5 = <u>25</u>																			
Column Totals: <u>153</u> (A)	<u>457</u> (B)																			
Prevalence Index = B/A = <u>2.99</u>																				
Sapling/Shrub Stratum (Plot size: <u>15'</u> )																				
1. <u>Juglans nigra</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Elaeagnus umbellata</u>	<u>3</u>	<u>Yes</u>	<u>UPL</u>																	
3. <u>Rubus occidentalis</u>	<u>2</u>	<u>No</u>	<u>UPL</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> )																				
1. <u>Solidago altissima</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Galium asprellum</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>																	
3. <u>Phalaris arundinacea</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>																	
4. <u>Dichanthelium clandestinum</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>																	
5. <u>Carex stipata</u>	<u>10</u>	<u>Yes</u>	<u>OBL</u>																	
6. <u>Impatiens capensis</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
7. <u>Carex amphibola</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
8. <u>Poa pratensis</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
9. <u>Packera aurea</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
10. <u>Agrimonia parviflora</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
<u>103</u> =Total Cover																				
Woody Vine Stratum (Plot size: <u>30'</u> )																				
1. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
2. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
<u>    </u> =Total Cover																				
<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																				
<b>Hydrophytic Vegetation Present?</b> Yes <u>    </u> No <u>X</u>																				
Remarks: (Include photo numbers here or on a separate sheet.) No hydrophytic vegetation indicators present, dominant species are OBL, FACW, FAC, FACU and UPL																				

## VEGETATION Continued – Use scientific names of plants.

Sampling Point: jpl-bl-20200603-06

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of Vegetation Strata:
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
	35	=Total Cover		
<u>Sapling/Shrub Stratum</u>				
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
	15	=Total Cover		
<u>Herb Stratum</u>				
11. <i>Erigeron annuus</i>	3	No	FACU	
12. _____	_____	_____	_____	
13. _____	_____	_____	_____	
14. _____	_____	_____	_____	
15. _____	_____	_____	_____	
16. _____	_____	_____	_____	
17. _____	_____	_____	_____	
18. _____	_____	_____	_____	
19. _____	_____	_____	_____	
20. _____	_____	_____	_____	
21. _____	_____	_____	_____	
22. _____	_____	_____	_____	
	103	=Total Cover		
<u>Woody Vine Stratum</u>				
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
		=Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				

Sampling Point: -bl-20200603

HYDROLOGY			
<b>Wetland Hydrology Indicators:</b>			
<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 checked="" 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)		
<b>Field Observations:</b>		<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <input type="text" value="0"/>		
Water Table Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <input type="text"/>		
Saturation Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <input type="text"/>		
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			
One secondary and no primary hydrology indicators present.			

# WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site:	Crooksville-North Newark 138 kV Transmission Line Rebuild Project	City/County:	Perry County	Sampling Date:	06/04/2020
Applicant/Owner:	AEP	State:	OH	Sampling Point:	upl-bl-20200604-04
Investigator(s):	SM, BL	Section, Township, Range:	S 21 T 17N R 15W		

Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): convex

Slope (%): 2 Lat: 39.85737 Long: -82.20402 Datum: NAD 83

Soil Map Unit Name: No - Nolin silt loam, 0 to 3 percent slopes, occasionally flooded NWI classification: N/A

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

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

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>	<b>Is the Sampled Area within a Wetland?</b>	<b>Yes <u>      </u></b>	<b>No <u>  X  </u></b>
Hydric Soil Present?	Yes <u>      </u>	No <u>  X  </u>			
Wetland Hydrology Present?	Yes <u>      </u>	No <u>  X  </u>			
<b>Remarks:</b> Upland 045 sampling point located in mapped 100-yr floodplain of Turkey Run (Stream 046), east of State Route 204 in fallow agricultural field. Investigated for wetland conditions, not a wetland as hydric soil and hydrology criteria not met.					

**VEGETATION** – Use scientific names of plants.

Tree Stratum	(Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
5.				
			=Total Cover	
Sapling/Shrub Stratum	(Plot size: 15')			
1.				
2.				
3.				
4.				
5.				
			=Total Cover	
Herb Stratum	(Plot size: 5')			
1. <i>Bromus arvensis</i>		30	Yes	FACU
2. <i>Packera glabella</i>		20	Yes	FACW
3. <i>Poa pratensis</i>		20	Yes	FAC
4. <i>Agrostis gigantea</i>		10	No	FACW
5. <i>Cirsium arvense</i>		10	No	FACU
6. <i>Solidago altissima</i>		3	No	FACU
7. <i>Oxalis stricta</i>		3	No	FACU
8.				
9.				
10.				
		96	=Total Cover	
Woody Vine Stratum	(Plot size: 30')			
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: 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	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	20	x 3 =	60
FACU species	46	x 4 =	184
UPL species	0	x 5 =	0
Column Totals:	96 (A)		304 (B)
Prevalence Index = B/A =		3.17	

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators 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 FACW, FAC and FACU.



## SOIL

HYDROLOGY				
<b>Wetland Hydrology Indicators:</b>				
<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 checked="" 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)			
<b>Field Observations:</b>				
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <input type="text"/>	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <input type="text"/>		
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <input type="text"/>		
(includes capillary fringe)				
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
Remarks:				
One secondary hydrology indicator present.				

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project City/County: Perry County Sampling Date: 06/04/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-bl-20200604-03  
 Investigator(s): SM, BL Section, Township, Range: S 20 T 17N R 15W

Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): concave

Slope (%): 5 Lat: 39.85755 Long: -82.20477 Datum: NAD 83

Soil Map Unit Name: No - Nolin silt loam, 0 to 3 percent slopes, occasionally flooded NWI classification: R2UBH

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: Upland 046 sampling point taken on RDB of Turkey Run within mapped floodplain investigated for wetland conditions. Evidence of dredging on RDB. Not a wetland point as no criteria met.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)																
1. <u>Juglans nigra</u>	<u>45</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Robinia pseudoacacia</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Acer negundo</u>	<u>10</u>	<u>No</u>	<u>FAC</u>																	
4. <u>Platanus occidentalis</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
5. <u>    </u>	<u>90</u>	<u>=Total Cover</u>	<u>    </u>	<b>Prevalence Index worksheet:</b> <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>70</u></td> <td>x 2 = <u>140</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>192</u></td> <td>x 4 = <u>768</u></td> </tr> <tr> <td>UPL species <u>15</u></td> <td>x 5 = <u>75</u></td> </tr> <tr> <td>Column Totals: <u>297</u> (A)</td> <td><u>1043</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.51</u></td> </tr> </tbody> </table>	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>20</u>	x 3 = <u>60</u>	FACU species <u>192</u>	x 4 = <u>768</u>	UPL species <u>15</u>	x 5 = <u>75</u>	Column Totals: <u>297</u> (A)	<u>1043</u> (B)	Prevalence Index = B/A = <u>3.51</u>	
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>20</u>	x 3 = <u>60</u>																			
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Column Totals: <u>297</u> (A)	<u>1043</u> (B)																			
Prevalence Index = B/A = <u>3.51</u>																				
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Juglans nigra</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Robinia pseudoacacia</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
3. <u>Rubus occidentalis</u>	<u>5</u>	<u>No</u>	<u>UPL</u>																	
4. <u>Sambucus nigra</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
5. <u>    </u>	<u>35</u>	<u>=Total Cover</u>	<u>    </u>	<b>Hydrophytic Vegetation</b> Present? Yes <u>    </u> No <u>X</u>																
Herb Stratum (Plot size: <u>5'</u> )																				
1. <u>Phalaris arundinacea</u>	<u>60</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Bromus inermis</u>	<u>50</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Ambrosia artemisiifolia</u>	<u>30</u>	<u>No</u>	<u>FACU</u>																	
4. <u>Cirsium arvense</u>	<u>10</u>	<u>No</u>	<u>FACU</u>	<b>Hydrophytic Vegetation</b> Present? Yes <u>    </u> No <u>X</u>																
5. <u>Convolvulus arvensis</u>	<u>10</u>	<u>No</u>	<u>UPL</u>																	
6. <u>Rumex crispus</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
7. <u>Galium aparine</u>	<u>2</u>	<u>No</u>	<u>FACU</u>																	
8. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
9. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<b>Hydrophytic Vegetation</b> Present? Yes <u>    </u> No <u>X</u>																
10. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
Woody Vine Stratum (Plot size: <u>30'</u> )				<b>Hydrophytic Vegetation</b> Present? Yes <u>    </u> No <u>X</u>																
1. <u>Vitis riparia</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
<u>    </u>	<u>5</u>	<u>=Total Cover</u>	<u>    </u>																	

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.

**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 <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR 3/3	100					Loamy/Clayey	Sandy Clay Loam

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: 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 Soils<sup>3</sup>:**

- ☐ Coast Prairie Redox (A16)  
☐ Iron-Manganese Masses (F12)  
☐ Red Parent Material (F21)  
☐ Very Shallow Dark Surface (F22)  
☐ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes \_\_\_\_\_ No X

**Remarks:**

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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))

Shovel refusal at 12" depth due to hard pack gravel. 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 <u>X</u>	Depth (inches): _____
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 X

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

**Remarks:**

One secondary hydrology indicator present.

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project City/County: Perry County Sampling Date: 06/04/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-bl-20200604-05  
 Investigator(s): SM, BL Section, Township, Range: S 20 T 17N R 15W

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): convex

Slope (%): 5 Lat: 39.86100 Long: -82.20817 Datum: NAD 83

Soil Map Unit Name: WhC - Wellston 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 x 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 <u>X</u> No <u>    </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:

Upland 049 investigated for wetland criteria due to hydrophytic vegetation area in ROW. Field drive/tire ruts caused some water accumulation. Point taken outside of shoulder. Interspersed small patchy areas of hydrophytic veg present along tire ruts, not consistent or widespread enough to indicate wetland. Not a wetland point as hydric soil and hydrology criteria not met

### VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</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>50.0%</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> )				<b>Prevalence Index worksheet:</b> <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>70</u></td> <td>x 1 = <u>70</u></td> </tr> <tr> <td>FACW species <u>21</u></td> <td>x 2 = <u>42</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>11</u></td> <td>x 4 = <u>44</u></td> </tr> <tr> <td>UPL species <u>10</u></td> <td>x 5 = <u>50</u></td> </tr> <tr> <td>Column Totals: <u>112</u> (A)</td> <td><u>206</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>70</u>	x 1 = <u>70</u>	FACW species <u>21</u>	x 2 = <u>42</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>11</u>	x 4 = <u>44</u>	UPL species <u>10</u>	x 5 = <u>50</u>	Column Totals: <u>112</u> (A)	<u>206</u> (B)	Prevalence Index = B/A = <u>1.84</u>	
Total % Cover of:	Multiply by:																				
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Column Totals: <u>112</u> (A)	<u>206</u> (B)																				
Prevalence Index = B/A = <u>1.84</u>																					
1. <u>Rubus occidentalis</u>		<u>10</u>	<u>Yes</u>	<u>UPL</u>																	
2. <u>Liriodendron tulipifera</u>		<u>3</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Gleditsia triacanthos</u>		<u>1</u>	<u>No</u>	<u>FACU</u>																	
4. <u>Quercus muehlenbergii</u>		<u>1</u>	<u>No</u>	<u>FACU</u>																	
5. <u>    </u>																					
		<u>15</u> =Total Cover																			
Herb Stratum	(Plot size: <u>5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Carex frankii</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>Juncus effusus</u>		<u>10</u>	<u>No</u>	<u>OBL</u>																	
4. <u>Dichanthelium clandestinum</u>		<u>5</u>	<u>No</u>	<u>FACW</u>																	
5. <u>Carex vulpinoidea</u>		<u>5</u>	<u>No</u>	<u>FACW</u>																	
6. <u>Onoclea sensibilis</u>		<u>5</u>	<u>No</u>	<u>FACW</u>																	
7. <u>Asclepias syriaca</u>		<u>3</u>	<u>No</u>	<u>FACU</u>																	
8. <u>Juncus torreyi</u>		<u>3</u>	<u>No</u>	<u>FACW</u>																	
9. <u>Collinsia verna</u>		<u>3</u>	<u>No</u>	<u>FACU</u>																	
10. <u>Euthamia graminifolia</u>		<u>3</u>	<u>No</u>	<u>FACW</u>																	
		<u>97</u> =Total Cover																			
Woody Vine Stratum	(Plot size: <u>30'</u> )				<b>Hydrophytic Vegetation</b> 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 Prevalence index < 3.0. Dominant species are OBL, FACW and FACU.

## SOIL

Sampling Point: -bl-20200604

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 <sup>1</sup>	Loc <sup>2</sup>		
0-13	10YR 5/3	95	10YR 5/6	5	C	M	Loamy/Clayey	Silty Loam
13-17	2.5Y 4/3	80	10YR 4/6	20	C	M	Loamy/Clayey	

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other (Explain in Remarks)
<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)	

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

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____ No <u>X</u>
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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](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)		Secondary Indicators (minimum of two required)	
<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 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)		

<b>Field Observations:</b> Surface Water Present?    Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present?      Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present?        Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
One secondary hydrology indicator present.



## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project City/County: Perry County Sampling Date: 06/04/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-bl-20200604-08  
 Investigator(s): SM, BL Section, Township, Range: S 20 T 17N R 15W

Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): concave

Slope (%): 5 Lat: 39.864201 Long: -82.21152 Datum: NAD 83

Soil Map Unit Name: WmE - Westmoreland silt loam, 25 to 35 percent slopes NWI classification: N/A

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

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

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>    </u> No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u>
Remarks: Upland 052, on terrace of intermittent Stream 048, investigated for wetland conditions. Not a wetland point as hydric soil criteria not met.	

### 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			
<b>Dominance Test worksheet:</b>					
Number of Dominant Species That Are OBL, FACW, or FAC:					<u>2</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>50.0%</u> (A/B)
<b>Prevalence Index worksheet:</b>					
Total % Cover of:		Multiply by:			
OBL species	<u>0</u>	x 1 =		<u>0</u>	
FACW species	<u>61</u>	x 2 =		<u>122</u>	
FAC species	<u>15</u>	x 3 =		<u>45</u>	
FACU species	<u>25</u>	x 4 =		<u>100</u>	
UPL species	<u>5</u>	x 5 =		<u>25</u>	
Column Totals:		<u>106</u> (A)			<u>292</u> (B)
Prevalence Index = B/A =					<u>2.75</u>
<b>Hydrophytic Vegetation Indicators:</b>					
<u>    </u> 1 - Rapid Test for Hydrophytic Vegetation					
<u>    </u> 2 - Dominance Test is >50%					
<u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup>					
<u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)					
<u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)					
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>    </u>					
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation indicator present as prevalence index < 3.0. Dominant species are FACW, FACU and UPL.					

## SOIL

Upland 052

Sampling Point: -bl-20200604

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 <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR 3/1	100					Loamy/Clayey	Silty Loam
6-15	10YR 5/3	80	10YR 4/6	20	C	M	Loamy/Clayey	Silty Clay Loam

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils <sup>3</sup> :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> ? Coast Prairie Redox (A16)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Iron-Manganese Masses (F12)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> Very Shallow Dark Surface (F22)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Other (Explain in Remarks)	
<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)		

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

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____ No <u>X</u>
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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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 No hydric soil indicators present, low chroma/low value matrix without required redox concentrations present.

## 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 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 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)		

<b>Field Observations:</b> Surface Water Present?    Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present?      Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present?        Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Two secondary hydrology indicators present. Primary source of hydrology is overbank flow from intermittent Stream 048.

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line Rebuild Project City/County: Perry County Sampling Date: 06/05/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-bl-20200605-02  
 Investigator(s): SM, BL Section, Township, Range: S 18 T 17N R 15W

Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): concave

Slope (%): 10 Lat: 39.87580 Long: -82.22374 Datum: NAD 83

Soil Map Unit Name: WmE - Westmoreland silt loam, 25 to 35 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>X</u> No <u>    </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	
Remarks: Upland 053 in grassy swale resulting from culvert outlet (under SR 204) w/ plunge pool, investigated for wetland criteria. Not a wetland point as hydrophytic vegetation criteria not met.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</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>50.0%</u> (A/B)																
1. <u>Acer negundo</u>	<u>5</u>	<u>Yes</u>	<u>FAC</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>5</u>	<u>=Total Cover</u>	<u>    </u>																	
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>																				
1. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<b>Prevalence Index worksheet:</b> <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>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>7</u></td> <td>x 3 = <u>21</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>90</u></td> <td>x 5 = <u>450</u></td> </tr> <tr> <td>Column Totals: <u>112</u> (A)</td> <td><u>521</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>4.65</u></td> </tr> </tbody> </table>	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>7</u>	x 3 = <u>21</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>90</u>	x 5 = <u>450</u>	Column Totals: <u>112</u> (A)	<u>521</u> (B)	Prevalence Index = B/A = <u>4.65</u>	
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>7</u>	x 3 = <u>21</u>																			
FACU species <u>10</u>	x 4 = <u>40</u>																			
UPL species <u>90</u>	x 5 = <u>450</u>																			
Column Totals: <u>112</u> (A)	<u>521</u> (B)																			
Prevalence Index = B/A = <u>4.65</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>																	
<b>Herb Stratum (Plot size: <u>5'</u>)</b>																				
1. <u>Bromus secalinus</u>	<u>90</u>	<u>Yes</u>	<u>UPL</u>	<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Schedonorus arundinaceus</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
3. <u>Poa palustris</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
4. <u>Rumex crispus</u>	<u>2</u>	<u>No</u>	<u>FAC</u>																	
5. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
6. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
7. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
8. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
9. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
10. <u>    </u>	<u>107</u>	<u>=Total Cover</u>	<u>    </u>																	
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>																				
1. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<b>Hydrophytic Vegetation Present?</b> Yes <u>    </u> No <u>X</u>																
2. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
<u>    </u> =Total Cover																				

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

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 <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 4/3	100					Loamy/Clayey	silty clay loam
4-16	10YR 4/2	95	10YR 4/6	5	C	PL	Loamy/Clayey	silty clay loam

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other (Explain in Remarks)
<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 checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

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

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> 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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 Hydric soil indicator present as low chroma/high value depleted matrix with required 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 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 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 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)		

<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> 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:  
 One primary and two secondary hydrology indicators present. Primary source of hydrology is concentration of precipitation and surface runoff in geomorphic position.

## Upland 073

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Crooksville-North Newark 138 kV Transmission Line City/County: Licking County Sampling Date: 06/10/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-aeH-200610-07  
 Investigator(s): AEH, SKM Section, Township, Range: S15. T18N. R16W

Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): none

Slope (%): 0 Lat: 39.924547 Long: -82.273704 Datum: NAD 83

Soil Map Unit Name: Melvin silt loam, 0 to 3 percent slopes, frequently flooded (Me) 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>    </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: Upland 073 is located within the 100-year floodplain of Stream 071, investigated for wetland conditions. Not a wetland point as it does not meet hydric soil or hydrology criteria.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>85.7%</u> (A/B)																
1. <u>Acer negundo</u>	35	Yes	FAC																	
2. <u>Platanus occidentalis</u>	30	Yes	FACW																	
3. <u>Salix nigra</u>	10	No	OBL																	
4. <u>    </u>																				
5. <u>    </u>																				
	75	=Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>																				
1. <u>    </u>				<b>Prevalence Index worksheet:</b> <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>60</u></td> <td>x 2 = <u>120</u></td> </tr> <tr> <td>FAC species <u>55</u></td> <td>x 3 = <u>165</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>135</u> (A)</td> <td><u>335</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>60</u>	x 2 = <u>120</u>	FAC species <u>55</u>	x 3 = <u>165</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>135</u> (A)	<u>335</u> (B)	Prevalence Index = B/A = <u>2.48</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>10</u>	x 1 = <u>10</u>																			
FACW species <u>60</u>	x 2 = <u>120</u>																			
FAC species <u>55</u>	x 3 = <u>165</u>																			
FACU species <u>10</u>	x 4 = <u>40</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>135</u> (A)	<u>335</u> (B)																			
Prevalence Index = B/A = <u>2.48</u>																				
2. <u>    </u>																				
3. <u>    </u>																				
4. <u>    </u>																				
5. <u>    </u>																				
		=Total Cover																		
<b>Herb Stratum (Plot size: <u>5'</u>)</b>																				
1. <u>Elymus riparius</u>	15	Yes	FACW	<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Phalaris arundinacea</u>	15	Yes	FACW																	
3. <u>Poa pratensis</u>	10	Yes	FAC																	
4. <u>Rumex crispus</u>	10	Yes	FAC																	
5. <u>Rosa multiflora</u>	10	Yes	FACU																	
6. <u>    </u>																				
7. <u>    </u>																				
8. <u>    </u>																				
9. <u>    </u>																				
10. <u>    </u>																				
	60	=Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>																				
1. <u>    </u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <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%.																				



## 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 <sup>1</sup>	Loc <sup>2</sup>		
0-1	10YR 4/3	100					Sandy	
1-18	10YR 4/3	100					Loamy/Clayey	

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils <sup>3</sup> :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Iron-Manganese Masses (F12)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> Very Shallow Dark Surface (F22)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Other (Explain in Remarks)	
<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)		

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

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____ No <u>X</u>
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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](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf))  
 No hydric soil indicators present. Soils were well drained.

## 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 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 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)		

<b>Field Observations:</b> Surface Water Present?    Yes _____ No <u>x</u> Depth (inches): _____ Water Table Present?      Yes _____ No <u>x</u> Depth (inches): _____ Saturation Present?        Yes _____ No <u>x</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u>
---	---

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

Remarks:  
 Upland is located within the floodplain, only one secondary hydrology indicator present.

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Croosville-North Newark 138kV T-Line Project City/County: Licking County Sampling Date: 06/02/2020  
 Applicant/Owner: AEP State: OH Sampling Point: upl-jbl-20200602-01  
 Investigator(s): JBL, AEH Section, Township, Range: T2N R12W QNE

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): undulating

Slope (%): 1 Lat: 40.09627 Long: -82.41388 Datum: NAD 83

Soil Map Unit Name: OcB - Ockley silt loam, Southern Ohio Till Plain, 2 to 6 percent slopes NWI classification: PFO1A

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>    </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: Sample point upl-jbl-20200602-01 investigating NWI-mapped PFO1A wetland within study area. Not a wetland point, hydric soil and wetland hydrology criteria not met.	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>71.4%</u> (A/B)																
1. <u>Populus deltoides</u>	40	Yes	FAC																	
2. <u>Platanus occidentalis</u>	50	Yes	FACW																	
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>																	
90 = Total Cover																				
Sapling/Shrub Stratum (Plot size: <u>15</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index worksheet:</b> <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>100</u></td> <td>x 2 = <u>200</u></td> </tr> <tr> <td>FAC species <u>95</u></td> <td>x 3 = <u>285</u></td> </tr> <tr> <td>FACU species <u>35</u></td> <td>x 4 = <u>140</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>230</u> (A)</td> <td><u>625</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.72</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>100</u>	x 2 = <u>200</u>	FAC species <u>95</u>	x 3 = <u>285</u>	FACU species <u>35</u>	x 4 = <u>140</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>230</u> (A)	<u>625</u> (B)	Prevalence Index = B/A = <u>2.72</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>100</u>	x 2 = <u>200</u>																			
FAC species <u>95</u>	x 3 = <u>285</u>																			
FACU species <u>35</u>	x 4 = <u>140</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>230</u> (A)	<u>625</u> (B)																			
Prevalence Index = B/A = <u>2.72</u>																				
1. <u>Aesculus glabra</u>	15	Yes	FAC																	
2. <u>Rosa multiflora</u>	20	Yes	FACU																	
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>																	
35 = Total Cover																				
Herb Stratum (Plot size: <u>5</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Poa sylvestris</u>	40	Yes	FAC																	
2. <u>Verbesina alternifolia</u>	50	Yes	FACW																	
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>																	
6. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
7. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
8. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
9. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
10. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
90 = Total Cover																				
Woody Vine Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation</b> Present? Yes <u>X</u> No <u>    </u>																
1. <u>Lonicera japonica</u>	15	Yes	FACU																	
2. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>																	
15 = Total Cover																				
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																				

## SOIL

Sampling Point: -jbl-20200602

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 <sup>1</sup>	Loc <sup>2</sup>		
0-10	10YR 4/3	100					Loamy/Clayey	
10-16	10YR 3/3	100					Loamy/Clayey	

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils <sup>3</sup> :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Iron-Manganese Masses (F12)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> Very Shallow Dark Surface (F22)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Other (Explain in Remarks)	
<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)		

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

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____ No <u>X</u>
---	---

Remarks:  
No hydric soil indicators present.

## 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 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)		

<b>Field Observations:</b> Surface Water Present?    Yes _____ No <u>x</u> Depth (inches): _____ Water Table Present?      Yes _____ No <u>x</u> Depth (inches): _____ Saturation Present?        Yes _____ No <u>x</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
No primary or secondary hydrology indicators present.

**APPENDIX C**  
**PROJECT STREAM TABLE**

**CROOKSVILLE-ISABELLA-N NEWARK  
STREAM TABLE**

**6/4/2021**

Stream ID	Location		Stream Type	Stream Name	Delineated Length (feet)	Bankfull Width (feet)	OHWM Width (feet)	Field Evaluation			Ohio EPA 401 Eligibility	Stream Crossing?	Proposed Impacts	
	Latitude	Longitude						Method	Score	Category / Rating / OAC Designation			Fill Type	Length (LF)
Stream 001	39.763314	-82.095786	Perennial	Moxahala Creek	763	58	40	Chapter 3745-1	NA	Limited Resource Water	Eligible	TBD	TBD	TBD
Stream 002	39.761885	-82.096169	Intermittent	UNT to Moxahala Creek	122	3.7	2.8	HHEI	35.0	Modified Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 003	39.762886	-82.098382	Intermittent	UNT to Moxahala Creek	176	5	5	HHEI	52.0	Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 004	39.764202	-82.100596	Intermittent	UNT to Snake Run	141	3.9	1.6	HHEI	42.0	Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 005	39.765403	-82.102768	Perennial	Snake Run	211	7	6	Chapter 3745-1	NA	Limited Resource Water	Eligible	TBD	TBD	TBD
Stream 006	39.768887	-82.111093	Ephemeral	UNT to Bley Run	567	2	2	HHEI	24.0	Modified Ephemeral Stream	Eligible	TBD	TBD	TBD
Stream 007	39.771997	-82.114137	Perennial	UNT to Burley Run	203	4	4	QHEI	45.0	Fair Warmwater Habitat	Eligible	TBD	TBD	TBD
Stream 008	39.776473	-82.115222	Perennial	Burley Run	244	10	9	Chapter 3745-1	NA	Limited Resource Water	Eligible	TBD	TBD	TBD
Stream 009	39.782904	-82.117158	Ephemeral	UNT to Burley Run	36	1	1	HHEI	25.0	Modified Ephemeral Stream	Eligible	TBD	TBD	TBD
Stream 010	39.784083	-82.117280	Ephemeral	UNT to Burley Run	154	2	2	HHEI	20.0	Modified Ephemeral Stream	Eligible	TBD	TBD	TBD
Stream 011	39.789233	-82.118890	Intermittent	UNT to Buckeye Fork	215	3	3	HHEI	31.0	Modified Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 012	39.790693	-82.119501	Intermittent	UNT to Buckeye Fork	300	3	3	HHEI	31.0	Modified Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 013	39.791209	-82.119745	Intermittent	UNT to Buckeye Fork	247	3	3	HHEI	41.0	Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 014	39.792210	-82.119956	Intermittent	UNT to Buckeye Fork	397	3	3	HHEI	38.0	Modified Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 015	39.799693	-82.131789	Intermittent	UNT to Buckeye Fork	209	2	2	HHEI	32.0	Modified Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 016	39.803117	-82.136483	Perennial	Buckeye Fork	250	25	20	Chapter 3745-1	NA	Limited Resource Water	Eligible	TBD	TBD	TBD
Stream 017	39.805678	-82.139434	Ephemeral	UNT to Buckeye Fork	348	3	3	HHEI	26.0	Modified Ephemeral Stream	Eligible	TBD	TBD	TBD
Stream 018	39.809496	-82.143898	Intermittent	UNT to Buckeye Fork	210	4	3	HHEI	37.0	Modified Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 019	39.809764	-82.144038	Ephemeral	UNT to Buckeye Fork	246	1.5	1.5	HHEI	20.0	Ephemeral Stream	Eligible	TBD	TBD	TBD
Stream 020	39.811612	-82.146313	Intermittent	UNT to Buckeye Fork	214	2	2	HHEI	37.0	Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 021	39.812707	-82.148022	Intermittent	UNT to Buckeye Fork	244	2.5	2.5	HHEI	34.0	Modified Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 022	39.816533	-82.152340	Ephemeral	UNT to Butcherknife Creek	93	1	1	HHEI	15.0	Modified Ephemeral Stream	Eligible	TBD	TBD	TBD
Stream 023	39.816865	-82.152417	Perennial	Butcherknife Creek	271	15	12	Chapter 3745-1	NA	Limited Resource Water	Eligible	TBD	TBD	TBD
Stream 024	39.820582	-82.156794	Intermittent	UNT to Butcherknife Creek	210	4.7	2.9	HHEI	50.0	Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 025	39.823139	-82.159775	Intermittent	UNT to Butcherknife Creek	216	6.5	2.1	HHEI	66.0	Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 026	39.824351	-82.161240	Intermittent	UNT to Butcherknife Creek	180	3.8	2.2	HHEI	61.0	Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 027	39.825330	-82.162439	Perennial	UNT to Butcherknife Creek	1176	29.2	21	QHEI	61.0	Good Warmwater Habitat	Eligible	TBD	TBD	TBD

Please note that the information presented in this table may not be verified by applicable regulatory agencies.



**CROOKSVILLE-ISABELLA-N NEWARK  
STREAM TABLE**

**6/4/2021**

Stream ID	Location		Stream Type	Stream Name	Delineated Length (feet)	Bankfull Width (feet)	OHWM Width (feet)	Field Evaluation			Ohio EPA 401 Eligibility	Stream Crossing?	Proposed Impacts	
	Latitude	Longitude						Method	Score	Category / Rating / OAC Designation			Fill Type	Length (LF)
Stream 028	39.826864	-82.163779	Intermittent	UNT to Butcherknife Creek	268	6.22	4.3	HHEI	59.0	Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 029	39.828221	-82.166010	Intermittent	UNT to Butcherknife Creek	122	6.2	4.7	HHEI	61.0	Modified Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 030	39.829534	-82.167836	Intermittent	UNT to Butcherknife Creek	95	3.7	2.9	HHEI	39.0	Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 031	39.830051	-82.168794	Intermittent	UNT to Butcherknife Creek	97	3.2	2.2	HHEI	38.0	Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 032	39.830748	-82.169668	Intermittent	UNT to Butcherknife Creek	266	10.9	8.3	HHEI	87.0	Spring Water	Eligible	TBD	TBD	TBD
Stream 033a	39.832062	-82.172376	Ephemeral	UNT to Butcherknife Creek	68	3.1	1.9	HHEI	18.0	Ephemeral Stream	Eligible	TBD	TBD	TBD
Stream 033b	39.831954	-82.172462	Intermittent	UNT to Butcherknife Creek	31	3.9	3	HHEI	50.0	Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 034	39.833509	-82.174730	Intermittent	UNT to Butcherknife Creek	212	3.9	2.7	HHEI	58.0	Modified Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 035	39.834989	-82.177638	Intermittent	UNT to Butcherknife Creek	324	8.2	3.3	HHEI	64.0	Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 036	39.835208	-82.177975	Intermittent	UNT to Butcherknife Creek	113	4.7	2.8	HHEI	50.0	Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 037	39.835693	-82.178742	Intermittent	UNT to Butcherknife Creek	251	7.1	2.7	HHEI	40.0	Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 038	39.836812	-82.181309	Intermittent	UNT to Butcherknife Creek	77	5.8	3.8	HHEI	39.0	Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 039	39.837072	-82.181874	Intermittent	UNT to Butcherknife Creek	22	5.1	4.2	HHEI	56.0	Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 040	39.841159	-82.186875	Intermittent	UNT to Turkey Run	185	5.1	3	HHEI	54.0	Modified Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 041	39.843194	-82.189198	Intermittent	UNT to Turkey Run	296	6.5	4.6	HHEI	70.0	Modified Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 042	39.843922	-82.189887	Intermittent	UNT to Turkey Run	964	16.5	8.5	HHEI	70.0	Good Warmwater Habitat	Eligible	TBD	TBD	TBD
Stream 043	39.846963	-82.193331	Intermittent	UNT to Turkey Run	659	9.1	9	HHEI	47.0	Modified Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 044	39.849080	-82.195582	Intermittent	UNT to Turkey Run	253	4.4	3.1	HHEI	34.0	Modified Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 045	39.850531	-82.196834	Ephemeral	UNT to Turkey Run	80	3.4	2.7	HHEI	28.0	Ephemeral Stream	Eligible	TBD	TBD	TBD
Stream 046	39.857788	-82.204848	Perennial	Turkey Run	229	29.1	25	Chapter 3745-1	NA	Warmwater Habitat	Eligible	TBD	TBD	TBD
Stream 047	39.859003	-82.206160	Intermittent	UNT to Turkey Run	234	4.4	3.2	HHEI	49.0	Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 048	39.864101	-82.211455	Intermittent	UNT to Turkey Run	306	13.5	9.8	HHEI	72.0	Spring Water	Eligible	TBD	TBD	TBD
Stream 049	39.864464	-82.211865	Intermittent	UNT to Turkey Run	209	18.1	16	HHEI	82.0	Spring Water	Eligible	TBD	TBD	TBD
Stream 050	39.871822	-82.219309	Intermittent	UNT to Jonathan Creek	215	6	4.8	HHEI	65.0	Small Drainage Warmwater Stream	Possibly Eligible	TBD	TBD	TBD
Stream 051	39.876037	-82.224153	Intermittent	UNT to Jonathan Creek	210	3.4	2.6	HHEI	34.0	Modified Small Drainage Warmwater Stream	Possibly Eligible	TBD	TBD	TBD
Stream 052	39.878442	-82.227409	Intermittent	UNT to Jonathan Creek	78	3.7	3.2	HHEI	50.0	Small Drainage Warmwater Stream	Possibly Eligible	TBD	TBD	TBD

Please note that the information presented in this table may not be verified by applicable regulatory agencies.

**CROOKSVILLE-ISABELLA-N NEWARK  
STREAM TABLE**

**6/4/2021**

Stream ID	Location		Stream Type	Stream Name	Delineated Length (feet)	Bankfull Width (feet)	OHWM Width (feet)	Field Evaluation			Ohio EPA 401 Eligibility	Stream Crossing?	Proposed Impacts	
	Latitude	Longitude						Method	Score	Category / Rating / OAC Designation			Fill Type	Length (LF)
Stream 053	39.878996	-82.228341	Intermittent	UNT to Jonathan Creek	210	3	2.5	HHEI	37.0	Small Drainage Warmwater Stream	Possibly Eligible	TBD	TBD	TBD
Stream 054	39.883833	-82.235702	Ephemeral	UNT to Jonathan Creek	58	1	1	HHEI	13.0	Ephemeral Stream	Possibly Eligible	TBD	TBD	TBD
Stream 055	39.883977	-82.235797	Intermittent	UNT to Jonathan Creek	110	2	2	HHEI	35.0	Small Drainage Warmwater Stream	Possibly Eligible	TBD	TBD	TBD
Stream 056	39.886514	-82.239085	Perennial	Jonathan Creek	204	58	45	Chapter 3745-1	NA	Warmwater Habitat	Possibly Eligible	TBD	TBD	TBD
Stream 057	39.892980	-82.247761	Intermittent	UNT to Jonathan Creek	36	3	2.5	HHEI	35.0	Modified Small Drainage Warmwater Stream	Possibly Eligible	TBD	TBD	TBD
Stream 058	39.896162	-82.252393	Ephemeral	UNT to Jonathan Creek	83	2	2	HHEI	15.0	Ephemeral Stream	Possibly Eligible	TBD	TBD	TBD
Stream 059	39.896409	-82.252525	Ephemeral	UNT to Jonathan Creek	76	2	2	HHEI	20.0	Modified Ephemeral Stream	Possibly Eligible	TBD	TBD	TBD
Stream 060	39.898692	-82.254014	Intermittent	UNT to Jonathan Creek	215	4	2	HHEI	59.0	Modified Small Drainage Warmwater Stream	Possibly Eligible	TBD	TBD	TBD
Stream 061	39.898860	-82.254293	Ephemeral	UNT	164	1	1	HHEI	15.0	Ephemeral Stream	Possibly Eligible	TBD	TBD	TBD
Stream 062	39.900314	-82.255200	Intermittent	UNT to Jonathan Creek	237	4	4	HHEI	55.0	Modified Small Drainage Warmwater Stream	Possibly Eligible	TBD	TBD	TBD
Stream 063	39.906130	-82.259581	Intermittent	UNT to Jonathan Creek	297	3	3	HHEI	46.0	Small Drainage Warmwater Stream	Possibly Eligible	TBD	TBD	TBD
Stream 064	39.910685	-82.263068	Ephemeral	UNT	243	2.7	2	HHEI	18.0	Modified Ephemeral Stream	Ineligible	TBD	TBD	TBD
Stream 065	39.912656	-82.264765	Intermittent	UNT to Valley Run	201	4	4	HHEI	36.0	Small Drainage Warmwater Stream	Ineligible	TBD	TBD	TBD
Stream 066	39.913533	-82.265154	Intermittent	UNT to Valley Run	249	4.1	3	HHEI	44.0	Small Drainage Warmwater Stream	Ineligible	TBD	TBD	TBD
Stream 067	39.914719	-82.265836	Ephemeral	UNT to Valley Run	93	2.6	2	HHEI	17.0	Ephemeral Stream	Ineligible	TBD	TBD	TBD
Stream 068	39.919392	-82.269796	Intermittent	UNT to Valley Run	586	3.9	2.8	HHEI	44.0	Small Drainage Warmwater Stream	Ineligible	TBD	TBD	TBD
Stream 069	39.920153	-82.269980	Ephemeral	UNT to Valley Run	114	2	2	HHEI	18.0	Ephemeral Stream	Ineligible	TBD	TBD	TBD
Stream 070	39.920752	-82.270284	Intermittent	UNT to Valley Run	78	4	3.5	HHEI	34.0	Small Drainage Warmwater Stream	Ineligible	TBD	TBD	TBD
Stream 071	39.924405	-82.273550	Perennial	Valley Run	246	18	15	Chapter 3745-1	NA	Exceptional Warmwater Habitat	Ineligible	TBD	TBD	TBD
Stream 072	39.929578	-82.277775	Intermittent	UNT to Wise Run	249	4	4	HHEI	49.0	Small Drainage Warmwater Stream	Ineligible	TBD	TBD	TBD
Stream 073	39.932708	-82.280469	Intermittent	UNT to Wise Run	209	3	3	HHEI	34.0	Modified Small Drainage Warmwater Stream	Ineligible	TBD	TBD	TBD
Stream 074	39.935806	-82.283035	Intermittent	UNT to Wise Run	270	4	3	HHEI	48.0	Small Drainage Warmwater Stream	Ineligible	TBD	TBD	TBD
Stream 075	39.935975	-82.282808	Ephemeral	UNT to Wise Run	23	2	2	HHEI	25.0	Ephemeral Stream	Ineligible	TBD	TBD	TBD
Stream 076	39.939788	-82.286286	Perennial	Wise Run	443	15	15	QHEI	53.0	Good Warmwater Habitat	Possibly Eligible	TBD	TBD	TBD
Stream 077	39.943639	-82.289598	Intermittent	UNT to Wise Run	206	2	2	HHEI	35.0	Modified Small Drainage Warmwater Stream	Possibly Eligible	TBD	TBD	TBD
Stream 078	39.956005	-82.299679	Ephemeral	UNT to Wise Run	210	1	1	HHEI	13.0	Modified Ephemeral Stream	Possibly Eligible	TBD	TBD	TBD
Stream 079	39.965574	-82.305840	Intermittent	UNT to Wise Run	53	1	1	HHEI	30.0	Small Drainage Warmwater Stream	Possibly Eligible	TBD	TBD	TBD

Please note that the information presented in this table may not be verified by applicable regulatory agencies.

**CROOKSVILLE-ISABELLA-N NEWARK  
STREAM TABLE**

**6/4/2021**

Stream ID	Location		Stream Type	Stream Name	Delineated Length (feet)	Bankfull Width (feet)	OHWM Width (feet)	Field Evaluation			Ohio EPA 401 Eligibility	Stream Crossing?	Proposed Impacts	
	Latitude	Longitude						Method	Score	Category / Rating / OAC Designation			Fill Type	Length (LF)
Stream 080	39.965837	-82.305838	Ephemeral	UNT to Wise Run	257	1	1	HHEI	29.0	Modified Ephemeral Stream	Possibly Eligible	TBD	TBD	TBD
Stream 081	39.966225	-82.305716	Intermittent	UNT to Wise Run	121	4	4	HHEI	45.0	Small Drainage Warmwater Stream	Possibly Eligible	TBD	TBD	TBD
Stream 082	39.968443	-82.307336	Intermittent	UNT to Wise Run	210	4	1	HHEI	57.0	Small Drainage Warmwater Stream	Possibly Eligible	TBD	TBD	TBD
Stream 083	39.970458	-82.308732	Ephemeral	UNT to Wise Run	229	2	2	HHEI	25.0	Ephemeral Stream	Possibly Eligible	TBD	TBD	TBD
Stream 084	39.975049	-82.311602	Intermittent	UNT to Claylick Creek	266	2	2	HHEI	36.0	Small Drainage Warmwater Stream	Ineligible	TBD	TBD	TBD
Stream 085	39.975696	-82.311693	Intermittent	Claylick Creek	507	3	2	Chapter 3745-1	NA	Exceptional Warmwater Habitat	Ineligible	TBD	TBD	TBD
Stream 086	39.976345	-82.312186	Intermittent	UNT to Claylick Creek	177	2	2	HHEI	29.0	Small Drainage Warmwater Stream	Ineligible	TBD	TBD	TBD
Stream 087	39.977307	-82.312833	Intermittent	UNT to Claylick Creek	215	3	3	HHEI	49.0	Modified Small Drainage Warmwater Stream	Ineligible	TBD	TBD	TBD
Stream 088	39.980362	-82.313958	Ephemeral	UNT to Claylick Creek	105	1	1	HHEI	24.0	Ephemeral Stream	Ineligible	TBD	TBD	TBD
Stream 089	39.980498	-82.314037	Ephemeral	UNT to Claylick Creek	61	1	1	HHEI	18.0	Modified Ephemeral Stream	Ineligible	TBD	TBD	TBD
Stream 090	39.984957	-82.315779	Perennial	Claylick Creek	646	15	12	Chapter 3745-1	NA	Exceptional Warmwater Habitat	Ineligible	TBD	TBD	TBD
Stream 091	39.985052	-82.315507	Intermittent	UNT to Claylick Creek	89	6	6	HHEI	66.0	Small Drainage Warmwater Stream	Ineligible	TBD	TBD	TBD
Stream 092	39.986262	-82.316185	Ephemeral	UNT to Claylick Creek	198	3	3	HHEI	29.0	Modified Ephemeral Stream	Ineligible	TBD	TBD	TBD
Stream 093	39.989980	-82.317413	Intermittent	UNT to Claylick Creek	241	2	2	HHEI	39.0	Small Drainage Warmwater Stream	Ineligible	TBD	TBD	TBD
Stream 094	39.992811	-82.318419	Perennial	Claylick Creek	218	7	6	Chapter 3745-1	NA	Exceptional Warmwater Habitat	Ineligible	TBD	TBD	TBD
Stream 095	39.994558	-82.319083	Intermittent	UNT to Claylick Creek	338	6	5	HHEI	55.0	Modified Small Drainage Warmwater Stream	Ineligible	TBD	TBD	TBD
Stream 096	40.000017	-82.321196	Ephemeral	UNT to Claylick Creek	242	2	2	HHEI	29.0	Ephemeral Stream	Ineligible	TBD	TBD	TBD
Stream 097	40.002579	-82.323098	Ephemeral	UNT to Claylick Creek	302	2	2	HHEI	20.0	Ephemeral Stream	Ineligible	TBD	TBD	TBD
Stream 098	40.008562	-82.329864	Intermittent	UNT to Claylick Creek	437	4	3	HHEI	65.0	Small Drainage Warmwater Stream	Ineligible	TBD	TBD	TBD
Stream 099	40.010658	-82.332275	Intermittent	UNT to Claylick Creek	315	2	2	HHEI	47.0	Small Drainage Warmwater Stream	Ineligible	TBD	TBD	TBD
Stream 100	40.015744	-82.338294	Intermittent	UNT to Claylick Creek	468	2	2	HHEI	36.0	Small Drainage Warmwater Stream	Ineligible	TBD	TBD	TBD
Stream 101	40.020992	-82.344154	Perennial	Claylick Creek	204	25	20	Chapter 3745-1	NA	Exceptional Warmwater Habitat	Ineligible	TBD	TBD	TBD
Stream 102	40.023997	-82.347529	Intermittent	UNT to Claylick Creek	211	2	2	HHEI	32.0	Modified Small Drainage Warmwater Stream	Ineligible	TBD	TBD	TBD
Stream 103	40.031653	-82.353375	Intermittent	UNT to Equality Run	97	2	2	HHEI	40.0	Modified Small Drainage Warmwater Stream	Possibly Eligible	TBD	TBD	TBD
Stream 104	40.032780	-82.353293	Intermittent	Equality Run	222	4	3	Chapter 3745-1	NA	Warmwater Habitat	Possibly Eligible	TBD	TBD	TBD

Please note that the information presented in this table may not be verified by applicable regulatory agencies.

**CROOKSVILLE-ISABELLA-N NEWARK  
STREAM TABLE**

**6/4/2021**

Stream ID	Location		Stream Type	Stream Name	Delineated Length (feet)	Bankfull Width (feet)	OHWM Width (feet)	Field Evaluation			Ohio EPA 401 Eligibility	Stream Crossing?	Proposed Impacts	
	Latitude	Longitude						Method	Score	Category / Rating / OAC Designation			Fill Type	Length (LF)
Stream 105	40.034367	-82.353614	Intermittent	UNT to Equality Run	208	5	4	HHEI	61.0	Modified Small Drainage Warmwater Stream	Possibly Eligible	TBD	TBD	TBD
Stream 106	40.047803	-82.354337	Intermittent	UNT to Equality Run	229	3	3	HHEI	50.0	Small Drainage Warmwater Stream	Possibly Eligible	TBD	TBD	TBD
Stream 107	40.049945	-82.354080	Ephemeral	UNT to Licking River	97	3	3	HHEI	15.0	Ephemeral Stream	Possibly Eligible	TBD	TBD	TBD
Stream 108	40.053054	-82.354313	Perennial	Licking River	201	150	140	Chapter 3745-1	NA	Warmwater Habitat	Possibly Eligible	TBD	TBD	TBD
Stream 109	40.060945	-82.354225	Perennial	Shawnee Run	298	7	7	Chapter 3745-1	NA	Warmwater Habitat	Possibly Eligible	TBD	TBD	TBD
Stream 110	40.079179	-82.360797	Intermittent	UNT to Shawnee Run	430	4	4	HHEI	46.0	Small Drainage Warmwater Stream	Possibly Eligible	TBD	TBD	TBD
Stream 111	40.078933	-82.360523	Ephemeral	UNT to Shawnee Run	154	1	1	HHEI	19.0	Modified Ephemeral Stream	Possibly Eligible	TBD	TBD	TBD
Stream 112	40.082073	-82.362419	Intermittent	UNT to Shawnee Run	233	3	3	HHEI	19.0	Modified Small Drainage Warmwater Stream	Possibly Eligible	TBD	TBD	TBD
Stream 113	40.090841	-82.373391	Intermittent	UNT to Shawnee Run	88	2	2	HHEI	20.0	Modified Small Drainage Warmwater Stream	Possibly Eligible	TBD	TBD	TBD
Stream 114	40.096907	-82.395431	Intermittent	UNT to North Fork Licking River	226	3	3	HHEI	35.0	Modified Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 115	40.096822	-82.404065	Intermittent	UNT to North Fork Licking River	72	4	3	HHEI	47.0	Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
Stream 116	40.096837	-82.404644	Ephemeral	UNT to North Fork Licking River	89	2	2	HHEI	26.0	Ephemeral Stream	Eligible	TBD	TBD	TBD
Stream 117	40.092872	-82.415121	Perennial	North Fork Licking River	212	110	10	Chapter 3745-1	NA	Warmwater Habitat	Eligible	TBD	TBD	TBD
Stream 118	40.090999	-82.415091	Intermittent	UNT to North Fork Licking River	89	7	7	HHEI	35.0	Small Drainage Warmwater Stream	Eligible	TBD	TBD	TBD
<b>Total:</b>					<b>27,672</b>									<b>0</b>

Please note that the information presented in this table may not be verified by applicable regulatory agencies.

**APPENDIX D****OEPA STREAM DATA FORMS****DELINEATED FEATURES PHOTOGRAPHS (STREAMS)**



Stream &amp; Location: S-AEH-20200922-01, Moxahala Creek

RM: 15.7 Date: 9 / 21 / 20

Crooksville-North Newark 138 kV Transmission Line Rebuild

Scorers Full Name &amp; Affiliation: Bill Leopold, AECOM

River Code: - - - - -

STORET #: - - - - -

Lat./ Long.: 39.7688

18 2.0976

Office verified location ☐

## 1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

Check ONE (Or 2 &amp; average)

## BEST TYPES POOL RIFFLE

- ☐ BLDR /SLABS [10]  
☐ BOULDER [9]  
☐ COBBLE [8]  
☐ GRAVEL [7]  
☒ SAND [6]  
☐ BEDROCK [5]

## OTHER TYPES POOL RIFFLE

- ☐ HARDPAN [4]  
☐ DETRITUS [3]  
☐ MUCK [2]  
☒ SILT [2]  
☐ ARTIFICIAL [0]

(Score natural substrates; ignore sludge from point-sources)

## ORIGIN

- ☐ LIMESTONE [1]  
☒ TILLS [1]  
☐ WETLANDS [0]  
☐ HARDPAN [0]  
☐ SANDSTONE [0]  
☐ RIP/RAP [0]  
☐ LACUSTURINE [0]  
☐ SHALE [-1]  
☐ COAL FINES [-2]

## QUALITY

- ☒ HEAVY [-2]  
☐ MODERATE [-1]  
☐ NORMAL [0]  
☐ FREE [1]  
☒ EXTENSIVE [-2]  
☐ MODERATE [-1]  
☐ NORMAL [0]  
☐ NONE [1]

Substrate

5

Maximum 20

NUMBER OF BEST TYPES: ☐ 4 or more [2] ☒ 3 or less [0]

Comments

## 2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

## AMOUNT

Check ONE (Or 2 &amp; average)

- UNDERCUT BANKS [1]  
 OVERHANGING VEGETATION [1]  
 SHALLOWS (IN SLOW WATER) [1]  
 ROOTMATS [1]

- POOLS > 70cm [2]  
 ROOTWADS [1]  
 BOULDERS [1]

- OXBOWS, BACKWATERS [1]  
 AQUATIC MACROPHYTES [1]  
 LOGS OR WOODY DEBRIS [1]

- ☐ EXTENSIVE >75% [11]  
☒ MODERATE 25-75% [7]  
☐ SPARSE 5-<25% [3]  
☐ NEARLY ABSENT <5% [1]

Comments

Cover  
Maximum  
20

15

## 3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 &amp; average)

## SINUOSITY

- ☐ HIGH [4]  
☐ MODERATE [3]  
☒ LOW [2]  
☐ NONE [1]

## DEVELOPMENT

- ☐ EXCELLENT [7]  
☒ GOOD [5]  
☐ FAIR [3]  
☐ POOR [1]

## CHANNELIZATION

- ☐ NONE [6]  
☐ RECOVERED [4]  
☒ RECOVERING [3]  
☐ RECENT OR NO RECOVERY [1]

## STABILITY

- ☒ HIGH [3]  
☐ MODERATE [2]  
☐ LOW [1]

Comments

Channel  
Maximum  
20

13

## 4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank &amp; average)

River right looking downstream

## EROSION

- NONE / LITTLE [3]  
☐ MODERATE [2]  
☐ HEAVY / SEVERE [1]

## RIPARIAN WIDTH

- ☐ WIDE > 50m [4]  
☐ MODERATE 10-50m [3]  
☒ NARROW 5-10m [2]  
☒ VERY NARROW < 5m [1]  
☐ NONE [0]

## FLOOD PLAIN QUALITY

- ☐ FOREST, SWAMP [3]  
☒ SHRUB OR OLD FIELD [2]  
☐ RESIDENTIAL, PARK, NEW FIELD [1]  
☐ FENCED PASTURE [1]  
☐ OPEN PASTURE, ROWCROP [0]

- ☐ CONSERVATION TILLAGE [1]  
☒ URBAN OR INDUSTRIAL [0]  
☐ MINING / CONSTRUCTION [0]

Indicate predominant land use(s) past 100m riparian.

Comments

Riparian  
Maximum  
10

6.00

## 5] POOL / GLIDE AND RIFFLE / RUN QUALITY

## MAXIMUM DEPTH

Check ONE (ONLY!)

- ☒ > 1m [6]  
☐ 0.7-<1m [4]  
☐ 0.4-<0.7m [2]  
☐ 0.2-<0.4m [1]  
☐ < 0.2m [0]

## CHANNEL WIDTH

Check ONE (Or 2 &amp; average)

- ☐ POOL WIDTH > RIFFLE WIDTH [2]  
☒ POOL WIDTH = RIFFLE WIDTH [1]  
☐ POOL WIDTH < RIFFLE WIDTH [0]

## CURRENT VELOCITY

Check ALL that apply

- ☐ TORRENTIAL [-1] ☒ SLOW [1]  
☐ VERY FAST [1] ☐ INTERSTITIAL [-1]  
☐ FAST [1] ☐ INTERMITTENT [-2]  
☒ MODERATE [1] ☐ EDDIES [1]

Indicate for reach - pools and riffles.

## Recreation Potential

## Primary Contact

## Secondary Contact

(circle one and comment on back)

Comments

Pool /  
Current  
Maximum  
12

9

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:

Check ONE (Or 2 &amp; average).

☐ NO RIFFLE [metric=0]

## RIFFLE DEPTH

- ☐ BEST AREAS > 10cm [2]  
☒ BEST AREAS 5-10cm [1]  
☐ BEST AREAS < 5cm [metric=0]

## RUN DEPTH

- ☐ MAXIMUM > 50cm [2]  
☒ MAXIMUM < 50cm [1]

## RIFFLE / RUN SUBSTRATE

- ☐ STABLE (e.g., Cobble, Boulder) [2]  
☐ MOD. STABLE (e.g., Large Gravel) [1]  
☒ UNSTABLE (e.g., Fine Gravel, Sand) [0]

## RIFFLE / RUN EMBEDDEDNESS

- ☐ NONE [2]  
☐ LOW [1]  
☐ MODERATE [0]  
☒ EXTENSIVE [-1]

Comments

Riffle /  
Run  
Maximum  
8

1

## 6] GRADIENT

DRAINAGE AREA

( 69.20 mi<sup>2</sup>)

- ☐ VERY LOW - LOW [2-4]  
☒ MODERATE [6-10]  
☐ HIGH - VERY HIGH [10-6]

%POOL:

40.00

%GLIDE:

20.00

%RUN:

30.00

%RIFFLE:

10.00

Gradient  
Maximum  
10

10

AJ SAMPLED REACH

Check ALL that apply

METHOD

- ☐ BOAT
- ☐ WADE
- ☐ L. LINE
- ☒ OTHER

STAGE

1st -sample pass- 2nd

- ☐ HIGH
- ☐ UP
- ☐ NORMAL
- ☒ LOW
- ☐ DRY

DISTANCE

- ☐ 0.5 Km
- ☐ 0.2 Km
- ☒ 0.15 Km
- ☐ 0.12 Km
- ☐ OTHER

meters

CANOPY

- ☒ > 85%- OPEN
- ☐ 55%-<85%
- ☐ 30%-<55%
- ☐ 10%-<30%
- ☐ <10%- CLOSED

CLARITY

1st --sample pass-- 2nd

- ☒ < 20 cm
- ☐ 20-<40 cm
- ☐ 40-70 cm
- ☐ > 70 cm/ CTB
- ☐ SECCHI DEPTH

1st \_\_\_\_\_ cm

2nd \_\_\_\_\_ cm

CJ RECREATION

AREA DEPTH  
POOL: ☒ >100ft<sup>2</sup> ☐ >3ft

BJ AESTHETICS

- ☒ NUISANCE ALGAE
- ☐ INVASIVE MACROPHYTES
- ☐ EXCESS TURBIDITY
- ☐ DISCOLORATION
- ☐ FOAM / SCUM
- ☐ OIL SHEEN
- ☐ TRASH / LITTER
- ☐ NUISANCE ODOR
- ☐ SLUDGE DEPOSITS
- ☐ CSOs/SSOs/OUTFALLS

DJ MAINTENANCE

- ☐ PUBLIC / PRIVATE
- ☒ BOTH
- ☐ NA
- ☒ ACTIVE
- ☐ HISTORIC
- ☐ BOTH
- ☐ NA
- ☒ YOUNG-SUCCESSION-OLD
- ☒ SPRAY / SNAG
- ☒ REMOVED
- ☒ MODIFIED
- ☒ DIPPED OUT
- ☐ NA
- ☐ LEVEED
- ☐ ONE SIDED
- ☒ RELOCATED
- ☐ CUTOFFS
- ☒ MOVING-BEDLOAD-STABLE
- ☒ ARMoured
- ☐ SLUMPS
- ☐ ISLANDS / SCoured
- ☐ IMPOUNDED / DESICCATED
- ☐ FI
- substation

Circle some & COMMENT

powerline ROW and substation; channelized for railroad and highway; silt/sand substrates; LDB armored at substation, wetland on RDB

EJ ISSUES

- WWTP / CSO / NPDES
- ☒ INDUSTRY
- HARDENED
- ☒ URBAN
- ☒ DIRT&GRIME
- CONTAMINATED / LANDFILL
- BMPs-CONSTRUCTION-SEDIMENT
- LOGGING / IRRIGATION / COOLING
- BANK / EROSION / SURFACE
- FALSE BANK / MANURE / LAGOON
- WASH H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE
- ACID / MINE / QUARRY / FLOW
- NATURAL
- ☒ WETLAND
- STAGNANT
- ☒ PARK
- ☐ GOLF
- ☐ LAWN
- ☐ HOME
- ATMOSPHERE / DATA PAUCITY

FJ MEASUREMENTS

- $\bar{x}$  width 32'
- $\bar{x}$  depth 2'
- max. depth 4'
- $\bar{x}$  bankfull width 58'
- bankfull  $\bar{x}$  depth 5'
- W/D ratio
- bankfull max. depth
- floodprone  $x^2$  width
- entrench. ratio

Legacy Tree:


Stream Drawing:

park

wetland

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110, 60618779, 60616126
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<b>Stream 001</b>	
<b>Date:</b> September 22, 2020	
<b>Description:</b>  Perennial  Limited Resource Warer  Moxahala Creek  Facing Upstream	

<b>Stream 001</b>	
<b>Date:</b> September 22, 2020	
<b>Description:</b>  Perennial  Limited Resource Water  Moxahala Creek  Facing Downstream	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110, 60618779, 60616126
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<b>Stream 001</b>	
<b>Date:</b> September 22, 2020	
<b>Description:</b>  Perennial  Limited Resource Water  Moxahala Creek  Substrate	



## Primary Headwater Habitat Evaluation Form

35

HHEI Score (sum of metrics 1, 2, 3) :

SITE NAME/LOCATION **AEP Crooksville-North Newark 138 kV Transmission Line Rebuild**SITE NUMBER **s-aeh-20200922-04** RIVER BASIN **Muskingum** DRAINAGE AREA (mi<sup>2</sup>) **0.01**LENGTH OF STREAM REACH (ft) **125** LAT. **39.76188** LONG. **-82.09625** RIVER CODE **\_\_\_\_\_** RIVER MILE **0.09**DATE **09/22/20** SCORER **AEH, WRL** COMMENTS **Intermittent**

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions

STREAM CHANNEL ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☒ RECOVERING ☐ RECENT OR NO RECOVERY

MODIFICATIONS: **partially constructed channel across ROW**

1. **SUBSTRATE** (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [16 pts]	<b>0%</b>	<input type="checkbox"/> SILT [3 pt]	<b>0%</b>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<b>0%</b>	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<b>5%</b>
<input type="checkbox"/> BEDROCK [16 pt]	<b>10%</b>	<input type="checkbox"/> FINE DETRITUS [3 pts]	<b>0%</b>
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<b>5%</b>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	<b>0%</b>
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<b>20%</b>	<input type="checkbox"/> MUCK [0 pts]	<b>0%</b>
<input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	<b>60%</b>	<input type="checkbox"/> ARTIFICIAL [3 pts]	<b>0%</b>

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock **15.00%**

(A)

Substrate Percentage Check **100%**

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **15**TOTAL NUMBER OF SUBSTRATE TYPES: **5**

HHEI Metric Points

Substrate Max = 40

20

A + B

2. **Maximum Pool Depth** (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> > 5 cm - 10 cm [15 pts]
<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS **OHW=2.8w x 0.4'd**MAXIMUM POOL DEPTH (Inches): **0.00**

Pool Depth Max = 30

0

3. **BANK FULL WIDTH** (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]
<input type="checkbox"/> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	

COMMENTS **BF=3.7'w x 0.9'd**AVERAGE BANKFULL WIDTH (Feet): **3.70**

Bankfull Width Max=30

15

This information must also be completed

## RIPARIAN ZONE AND FLOODPLAIN QUALITY

☆NOTE: River Left (L) and Right (R) as looking downstream ☆

## RIPARIAN WIDTH

## FLOODPLAIN QUALITY

L	R	(Per Bank)	L	R	(Most Predominant per Bank)	L	R	
<input type="checkbox"/>	<input type="checkbox"/>	Wide >10m	<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Narrow <5m	<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	None	<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input checked="" type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

## STREAM GRADIENT ESTIMATE

☐ Flat (0.5 ft/100 ft) ☐ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☒ Moderate to Severe ☐ Severe (10 ft/100 ft)



**ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):**QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score  (If Yes, Attach Completed QHEI Form)**DOWNSTREAM DESIGNATED USE(S)**

<input checked="" type="checkbox"/> WWH Name: <b>Moxahala Creek (LRW, acid mine drainage)</b>	Distance from Evaluated Stream	<b>0.09</b>
<input type="checkbox"/> CWH Name: <input type="text"/>	Distance from Evaluated Stream	<input type="text"/>
<input type="checkbox"/> EWH Name: <input type="text"/>	Distance from Evaluated Stream	<input type="text"/>

**MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION**USGS Quadrangle Name: **Crooksville** NRCS Soil Map Page:  NRCS Soil Map Stream Order   
County: **Perry** Township / City: **Harrison****MISCELLANEOUS**Base Flow Conditions? (Y/N): ☒ Y Date of last precipitation: **09/13/20** Quantity: **1.36**  
Photograph Information: **3 photos, upstream, downstream and substrate**  
Elevated Turbidity? (Y/N): ☐ N Canopy (% open): **20%**  
Were samples collected for water chemistry? (Y/N): ☒ Y (Note lab sample no. or id. and attach results) Lab Number:   
Field Measures: Temp (°C)  Dissolved Oxygen (mg/l)  pH (S.U.)  Conductivity (µmhos/cm)   
Is the sampling reach representative of the stream (Y/N) ☒ Y If not, please explain: ~~Additional comments/description of pollution impacts:~~Overall Stability of BOTH Stream Banks (check one): Stable ☐ Moderately Stable ☐ Unstable ☒**BIOTIC EVALUATION**Performed? (Y/N): ☐ N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)  
Fish Observed? (Y/N) ☐ N Voucher? (Y/N) ☐ N Salamanders Observed? (Y/N) ☐ N Voucher? (Y/N) ☐ N  
Frogs or Tadpoles Observed? (Y/N) ☐ N Voucher? (Y/N) ☐ N Aquatic Macroinvertebrates Observed? (Y/N) ☐ N Voucher? (Y/N) ☐ N  
Comments Regarding Biology: **none observed****DRAW**

Include imp

**FLOW****REACH (This must be completed):**

a narrative description of the stream's location

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110, 60618779, 60616126
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<b>Stream 002</b>	
<b>Date:</b> September 22, 2020	
<b>Description:</b>  Intermittent  Modified Small Drainage Warmwater Stream  Facing Upstream	

<b>Stream 002</b>	
<b>Date:</b> September 22, 2020	
<b>Description:</b>  Intermittent  Modified Small Drainage Warmwater Stream  Facing Downstream	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110, 60618779, 60616126
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<b>Stream 002</b>	
<b>Date:</b> September 22, 2020	
<b>Description:</b>  Intermittent  Modified Small Drainage Warmwater Stream  Substrate	



## Primary Headwater Habitat Evaluation Form

52

HHEI Score (sum of metrics 1, 2, 3) :

SITE NAME/LOCATION **AEP Crooksville-North Newark 138 kV Transmission Line Rebuild**

SITE NUMBER **s-aeH-20200922-03** RIVER BASIN **Muskingum** DRAINAGE AREA (mi<sup>2</sup>) **0.02**  
 LENGTH OF STREAM REACH (ft) **200** LAT. **39.76288** LONG. **-82.09841** RIVER CODE  RIVER MILE **0.08**  
 DATE **09/22/20** SCORER **AEH, WRL** COMMENTS **Intermittent**

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions

STREAM CHANNEL ☐ NONE / NATURAL CHANNEL ☒ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY  
 MODIFICATIONS: **culvert drains wetland 010 to channel**

1. **SUBSTRATE** (Estimate percent of every type of substrate present. Check *ONLY* two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [16 pts]	<b>0%</b>	<input checked="" type="checkbox"/> SILT [3 pt]	<b>30%</b>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<b>0%</b>	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<b>10%</b>
<input type="checkbox"/> BEDROCK [16 pt]	<b>0%</b>	<input type="checkbox"/> FINE DETRITUS [3 pts]	<b>0%</b>
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<b>5%</b>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	<b>0%</b>
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<b>25%</b>	<input type="checkbox"/> MUCK [0 pts]	<b>10%</b>
<input type="checkbox"/> SAND (<2 mm) [6 pts]	<b>20%</b>	<input type="checkbox"/> ARTIFICIAL [3 pts]	<b>0%</b>

Total of Percentages of  
Bldr Slabs, Boulder, Cobble, Bedrock **5.00%**

(A)

Substrate Percentage  
Check **100%**

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **12**TOTAL NUMBER OF SUBSTRATE TYPES: **5**HHEI  
Metric  
PointsSubstrate  
Max = 40**17**

A + B

2. **Maximum Pool Depth** (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

<input type="checkbox"/> > 30 centimeters [20 pts]	<input checked="" type="checkbox"/> > 5 cm - 10 cm [15 pts]
<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS  MAXIMUM POOL DEPTH (Inches): **2.00**

Pool Depth  
Max = 30**15**

3. **BANK FULL WIDTH** (Measured as the average of 3-4 measurements) (Check *ONLY* one box):

<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]
<input checked="" type="checkbox"/> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	

COMMENTS  AVERAGE BANKFULL WIDTH (Feet): **5.00**

Bankfull  
Width  
Max=30**20**

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆

## RIPARIAN WIDTH

L	R	(Per Bank)
<input type="checkbox"/>	<input type="checkbox"/>	Wide >10m
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Narrow <5m
<input type="checkbox"/>	<input type="checkbox"/>	None

COMMENTS 

## FLOODPLAIN QUALITY

L	R	(Most Predominant per Bank)
<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland
<input type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Residential, Park, New Field
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture

L	R	
<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

**FLOW REGIME** (At Time of Evaluation) (Check *ONLY* one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS **SINUOSITY** (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

## STREAM GRADIENT ESTIMATE

☐ Flat (0.5 ft/100 ft) ☐ Flat to Moderate ☒ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

**ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):**QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score  (If Yes, Attach Completed QHEI Form)**DOWNSTREAM DESIGNATED USE(S)**

<input checked="" type="checkbox"/> WWH Name:	<b>Moxahala Creek (LRW, acid mine drainage)</b>	Distance from Evaluated Stream	<b>0.13</b>
<input type="checkbox"/> CWH Name:	<input type="text"/>	Distance from Evaluated Stream	<input type="text"/>
<input type="checkbox"/> EWH Name:	<input type="text"/>	Distance from Evaluated Stream	<input type="text"/>

**MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION**

USGS Quadrangle Name: **Crooksville** NRCS Soil Map Page:  NRCS Soil Map Stream Order   
County: **Perry** Township / City: **Harrison**

**MISCELLANEOUS**

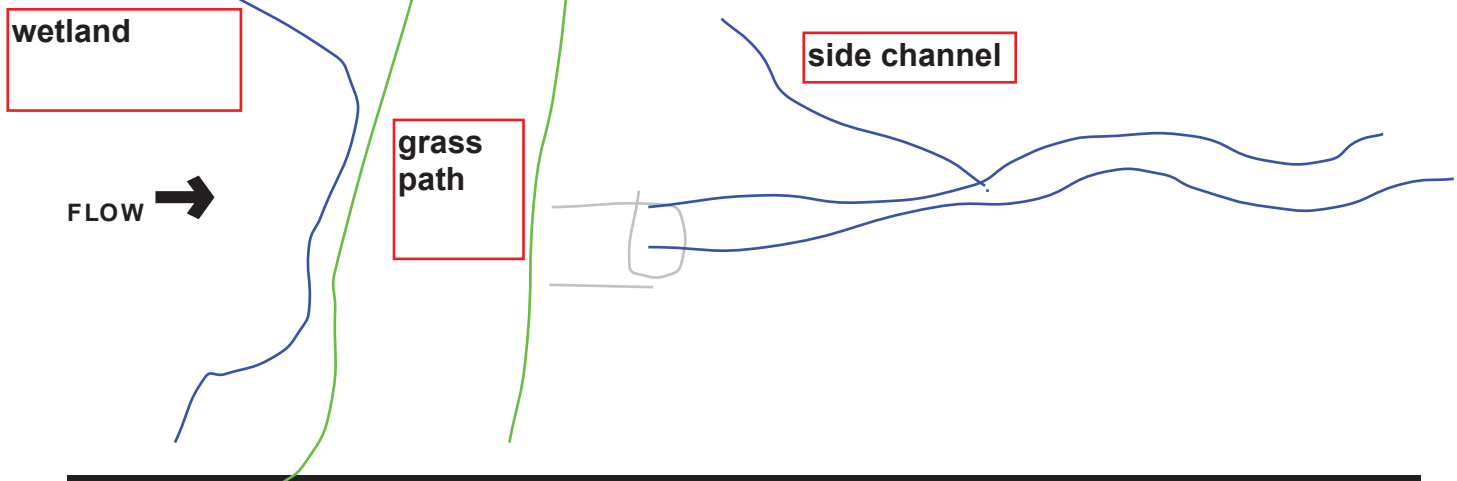
Base Flow Conditions? (Y/N): ☒ Y Date of last precipitation: **09/13/20** Quantity: **1.36**  
Photograph Information: **3 photos, upstream, downstream and substrate**  
Elevated Turbidity? (Y/N): ☒ N Canopy (% open): **20%**  
Were samples collected for water chemistry? (Y/N): ☒ Y (Note lab sample no. or id. and attach results) Lab Number:   
Field Measures: Temp (°C)  Dissolved Oxygen (mg/l)  pH (S.U.)  Conductivity (µmhos/cm)   
Is the sampling reach representative of the stream (Y/N) ☒ Y If not, please explain:  
**reach in open field, drains downslope through wooded hillside outside study area**

~~Additional comments/description of pollution impacts:~~Overall Stability of BOTH Stream Banks (check one): Stable ☐ Moderately Stable ☐ Unstable ☒**BIOTIC EVALUATION**

Performed? (Y/N): ☒ N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)  
Fish Observed? (Y/N) ☒ N Voucher? (Y/N) ☒ N Salamanders Observed? (Y/N) ☒ N Voucher? (Y/N) ☒ N  
Frogs or Tadpoles Observed? (Y/N) ☒ N Voucher? (Y/N) ☒ N Aquatic Macroinvertebrates Observed? (Y/N) ☒ N Voucher? (Y/N) ☒ N  
Comments Regarding Biology: **none observed**

**DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):**

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110, 60618779, 60616126
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<b>Stream 003</b>	
<b>Date:</b> September 22, 2020	
<b>Description:</b>  Intermittent  Small Drainage Warmwater Stream  Facing Upstream	

<b>Stream 003</b>	
<b>Date:</b> September 22, 2020	
<b>Description:</b>  Intermittent  Small Drainage Warmwater Stream  Facing Downstream	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110, 60618779, 60616126
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<b>Stream 003</b>	
<b>Date:</b> September 22, 2020	
<b>Description:</b>  Intermittent  Small Drainage Warmwater Stream  Substrate	



## Primary Headwater Habitat Evaluation Form

42

HHEI Score (sum of metrics 1, 2, 3) :

SITE NAME/LOCATION **AEP Crooksville-North Newark 138 kV Transmission Line Rebuild**

SITE NUMBER **s-aeH-20200922-02** RIVER BASIN **Muskingum** DRAINAGE AREA (mi<sup>2</sup>) **0.08**  
 LENGTH OF STREAM REACH (ft) **150** LAT. **39.76430** LONG. **-82.10062** RIVER CODE  RIVER MILE **0.25**  
 DATE **09/22/20** SCORER **AEH, WRL** COMMENTS **Intermittent**

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: ☒ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY

1. **SUBSTRATE** (Estimate percent of every type of substrate present. Check *ONLY* two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [16 pts]	<input type="checkbox"/> 0%	<input type="checkbox"/> SILT [3 pt]	<input type="checkbox"/> 10%
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<input type="checkbox"/> 0%	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<input type="checkbox"/> 5%
<input type="checkbox"/> BEDROCK [16 pt]	<input type="checkbox"/> 0%	<input type="checkbox"/> FINE DETRITUS [3 pts]	<input type="checkbox"/> 0%
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<input type="checkbox"/> 5%	<input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	<input type="checkbox"/> 20%
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<input type="checkbox"/> 10%	<input type="checkbox"/> MUCK [0 pts]	<input type="checkbox"/> 0%
<input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	<input type="checkbox"/> 50%	<input type="checkbox"/> ARTIFICIAL [3 pts]	<input type="checkbox"/> 0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock **5.00%**

(A)

Substrate Percentage Check **100%**

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **6**TOTAL NUMBER OF SUBSTRATE TYPES: **6**

HHEI Metric Points

Substrate Max = 40

12

A + B

2. **Maximum Pool Depth** (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

<input type="checkbox"/> > 30 centimeters [20 pts]	<input checked="" type="checkbox"/> > 5 cm - 10 cm [15 pts]
<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS **OHW=1.6'w x 0.4'd**MAXIMUM POOL DEPTH (Inches): **2.00**

Pool Depth Max = 30

15

3. **BANK FULL WIDTH** (Measured as the average of 3-4 measurements) (Check *ONLY* one box):

<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]
<input type="checkbox"/> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	

COMMENTS **BF=3.9'w x 1.2'd**AVERAGE BANKFULL WIDTH (Feet): **3.90**

Bankfull Width Max=30

15

This information must also be completed

## RIPARIAN ZONE AND FLOODPLAIN QUALITY

☆NOTE: River Left (L) and Right (R) as looking downstream ☆

## RIPARIAN WIDTH

L	R	(Per Bank)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Wide >10m
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m
<input type="checkbox"/>	<input type="checkbox"/>	None

COMMENTS

## FLOODPLAIN QUALITY

L	R	(Most Predominant per Bank)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Mature Forest, Wetland
<input type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture

L	R	
<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input checked="" type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

## STREAM GRADIENT ESTIMATE

☐ Flat (0.5 ft/100 ft) ☒ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)



**ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):**

**QHEI PERFORMED?** - ☐ Yes ☒ No QHEI Score  (If Yes, Attach Completed QHEI Form)

**DOWNSTREAM DESIGNATED USE(S)**

☒ WWH Name: **Snake Run (LRW, acid mine drainage)** Distance from Evaluated Stream **0.25**  
☐ CWH Name:  Distance from Evaluated Stream   
☐ EWH Name:  Distance from Evaluated Stream

**MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION**

USGS Quadrangle Name: **Crooksville** NRCS Soil Map Page:  NRCS Soil Map Stream Order   
County: **Perry** Township / City: **Harrison**

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): **Y** Date of last precipitation: **09/13/20** Quantity: **1.36**  
Photograph Information: **3 photos, upstream, downstream and substrate**  
Elevated Turbidity? (Y/N): **N** Canopy (% open): **30%**  
Were samples collected for water chemistry? (Y/N): **Y** (Note lab sample no. or id. and attach results) Lab Number:   
Field Measures: Temp (°C) **15.80** Dissolved Oxygen (mg/l)  pH (S.U.) **3.60** Conductivity (µmhos/cm)   
Is the sampling reach representative of the stream (Y/N) **N** If not, please explain:  
**upper portion of reach is dry, lower portion is flowing, outside study area is a flowing stream; possible acid mine drainage**

~~Additional comments/description of pollution impacts:~~

**Overall Stability of BOTH Stream Banks (check one):** **Stable** ☐ **Moderately Stable** ☐ **Unstable** ☒

**BIOTIC EVALUATION**

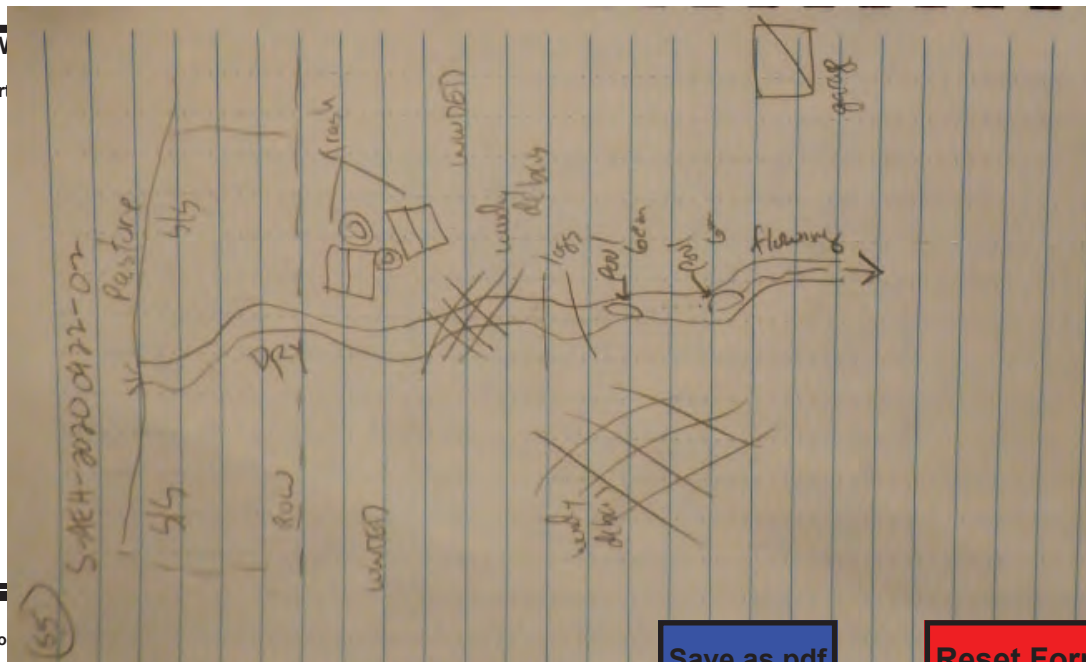
Performed? (Y/N): **N** (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)  
Fish Observed? (Y/N) **N** Voucher? (Y/N) **N** Salamanders Observed? (Y/N) **N** Voucher? (Y/N) **N**  
Frogs or Tadpoles Observed? (Y/N) **N** Voucher? (Y/N) **N** Aquatic Macroinvertebrates Observed? (Y/N) **N** Voucher? (Y/N) **N**  
Comments Regarding Biology: **none observed**

**DRAW**

Include important

ation

**FLOW** →



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110, 60618779, 60616126
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<b>Stream 004</b>	
<b>Date:</b> September 22, 2020	
<b>Description:</b>  Intermittent  Small Drainage Warmwater  Facing Upstream	

<b>Stream 004</b>	
<b>Date:</b> September 22, 2020	
<b>Description:</b>  Intermittent  Small Drainage Warmwater  Facing Downstream	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110, 60618779, 60616126
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<b>Stream 004</b>	 A photograph showing a stream bed with a ruler placed horizontally across it for scale. The water is murky and brown, and the bed is composed of various sized rocks, pebbles, and some organic debris like leaves. The ruler is yellow and has markings in inches. A date stamp '2020 9 22' is visible in the bottom right corner of the photo.
<b>Date:</b> September 22, 2020	
<b>Description:</b>  Intermittent  Small Drainage Warmwater  Substrate	



# Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score:

47

Stream &amp; Location: Snake Run / AEP Crooksville-North Newark 138 kV

RM: 0.33 Date: 10/08/2020

s-jbl-20201009-01

Scorers Full Name &amp; Affiliation: jbl,rcm AECOM

River Code: - - - STORET #: - - -

Lat./ Long.: 39.765431, -82.10272

Office verified location ☐

## 1] SUBSTRATE

Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

Check ONE (Or 2 &amp; average)

## BEST TYPES

<input type="checkbox"/>	BLDR /SLABS [10]	0
<input type="checkbox"/>	BOULDER [9]	
<input checked="" type="checkbox"/>	COBBLE [8]	0 55
<input type="checkbox"/>	GRAVEL [7]	0 15
<input type="checkbox"/>	SAND [6]	10 10
<input type="checkbox"/>	BEDROCK [5]	10 10

## OTHER TYPES

<input type="checkbox"/>	HARDPAN [4]	
<input type="checkbox"/>	DETRITUS [3]	30
<input type="checkbox"/>	MUCK [2]	
<input checked="" type="checkbox"/>	SILT [2]	50 10
<input type="checkbox"/>	ARTIFICIAL [0]	

(Score natural substrates; ignore

## ORIGIN

<input checked="" type="checkbox"/>	LIMESTONE [1]
<input type="checkbox"/>	TILLS [1]
<input type="checkbox"/>	WETLANDS [0]
<input type="checkbox"/>	HARDPAN [0]
<input type="checkbox"/>	SANDSTONE [0]
<input type="checkbox"/>	RIP/RAP [0]
<input type="checkbox"/>	LACUSTURINE [0]
<input type="checkbox"/>	SHALE [-1]
<input type="checkbox"/>	COAL FINES [-2]

## QUALITY

<input type="checkbox"/>	HEAVY [-2]
<input checked="" type="checkbox"/>	MODERATE [-1]
<input type="checkbox"/>	NORMAL [0]
<input type="checkbox"/>	FREE [1]
<input type="checkbox"/>	EXTENSIVE [-2]
<input checked="" type="checkbox"/>	MODERATE [-1]
<input type="checkbox"/>	NORMAL [0]
<input type="checkbox"/>	NONE [1]

Substrate

11

Maximum 20

NUMBER OF BEST TYPES: ☒ 4 or more [2] ☐ 3 or less [0]

Comments

## 2] INSTREAM COVER

Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

## AMOUNT

Check ONE (Or 2 &amp; average)

1	UNDERCUT BANKS [1]
1	OVERHANGING VEGETATION [1]
0	SHALLOWS (IN SLOW WATER) [1]
0	ROOTMATS [1]

1	POOLS > 70cm [2]
1	ROOTWADS [1]
	BOULDERS [1]

	OXBOWS, BACKWATERS [1]
	AQUATIC MACROPHYTES [1]
	LOGS OR WOODY DEBRIS [1]

<input type="checkbox"/>	EXTENSIVE >75% [11]
<input type="checkbox"/>	MODERATE 25-75% [7]
<input checked="" type="checkbox"/>	SPARSE 5-<25% [3]
<input type="checkbox"/>	NEARLY ABSENT <5% [1]

Cover

Maximum 20

7

## 3] CHANNEL MORPHOLOGY

Check ONE in each category (Or 2 & average)

## SINUOSITY

<input type="checkbox"/>	HIGH [4]
<input type="checkbox"/>	MODERATE [3]
<input checked="" type="checkbox"/>	LOW [2]
<input type="checkbox"/>	NONE [1]

## DEVELOPMENT

<input type="checkbox"/>	EXCELLENT [7]
<input checked="" type="checkbox"/>	GOOD [5]
<input type="checkbox"/>	FAIR [3]
<input type="checkbox"/>	POOR [1]

## CHANNELIZATION

<input type="checkbox"/>	NONE [6]
<input checked="" type="checkbox"/>	RECOVERED [4]
<input checked="" type="checkbox"/>	RECOVERING [3]
<input type="checkbox"/>	RECENT OR NO RECOVERY [1]

## STABILITY

<input type="checkbox"/>	HIGH [3]
<input checked="" type="checkbox"/>	MODERATE [2]
<input type="checkbox"/>	LOW [1]

Comments

Channel  
Maximum 20

12.5

## 4] BANK EROSION AND RIPARIAN ZONE

Check ONE in each category for EACH BANK (Or 2 per bank & average)

River right looking downstream

## EROSION

<input type="checkbox"/>	NONE / LITTLE [3]
<input checked="" type="checkbox"/>	MODERATE [2]
<input checked="" type="checkbox"/>	HEAVY / SEVERE [1]

## RIPARIAN WIDTH

<input type="checkbox"/>	WIDE > 50m [4]
<input type="checkbox"/>	MODERATE 10-50m [3]
<input checked="" type="checkbox"/>	NARROW 5-10m [2]
<input type="checkbox"/>	VERY NARROW < 5m [1]
<input type="checkbox"/>	NONE [0]

## FLOOD PLAIN QUALITY

<input type="checkbox"/>	FOREST, SWAMP [3]
<input type="checkbox"/>	SHRUB OR OLD FIELD [2]
<input checked="" type="checkbox"/>	RESIDENTIAL, PARK, NEW FIELD [1]
<input type="checkbox"/>	FENCED PASTURE [1]
<input type="checkbox"/>	OPEN PASTURE, ROWCROP [0]

<input type="checkbox"/>	CONSERVATION TILLAGE [1]
<input type="checkbox"/>	URBAN OR INDUSTRIAL [0]
<input type="checkbox"/>	MINING / CONSTRUCTION [0]

Indicate predominant land use(s) past 100m riparian.

Comments

1.5 + 3 + 2

Riparian  
Maximum 10

6.5

## 5] POOL / GLIDE AND RIFFLE / RUN QUALITY

## MAXIMUM DEPTH

Check ONE (ONLY!)

<input type="checkbox"/>	> 1m [6]
<input type="checkbox"/>	0.7-<1m [4]
<input type="checkbox"/>	0.4-<0.7m [2]
<input checked="" type="checkbox"/>	0.2-<0.4m [1]
<input type="checkbox"/>	< 0.2m [0]

## CHANNEL WIDTH

Check ONE (Or 2 &amp; average)

<input type="checkbox"/>	POOL WIDTH > RIFFLE WIDTH [2]
<input checked="" type="checkbox"/>	POOL WIDTH = RIFFLE WIDTH [1]
<input type="checkbox"/>	POOL WIDTH < RIFFLE WIDTH [0]

## CURRENT VELOCITY

Check ALL that apply

<input type="checkbox"/>	TORRENTIAL [-1]	<input checked="" type="checkbox"/>	SLOW [1]
<input type="checkbox"/>	VERY FAST [1]	<input type="checkbox"/>	INTERSTITIAL [-1]
<input type="checkbox"/>	FAST [1]	<input type="checkbox"/>	INTERMITTENT [-2]
<input checked="" type="checkbox"/>	MODERATE [1]	<input type="checkbox"/>	EDDIES [1]

Indicate for reach - pools and riffles.

## Recreation Potential

Primary Contact

Secondary Contact

(circle one and comment on back)

Comments

8" deep

Pool /  
Current  
Maximum 12

4

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:

Check ONE (Or 2 &amp; average).

☐ NO RIFFLE [metric=0]

## RIFFLE DEPTH

<input type="checkbox"/>	BEST AREAS > 10cm [2]
<input type="checkbox"/>	BEST AREAS 5-10cm [1]
<input checked="" type="checkbox"/>	BEST AREAS < 5cm [metric=0]

## RUN DEPTH

<input type="checkbox"/>	MAXIMUM > 50cm [2]
<input checked="" type="checkbox"/>	MAXIMUM < 50cm [1]

## RIFFLE / RUN SUBSTRATE

<input type="checkbox"/>	STABLE (e.g., Cobble, Boulder) [2]
<input checked="" type="checkbox"/>	MOD. STABLE (e.g., Large Gravel) [1]
<input type="checkbox"/>	UNSTABLE (e.g., Fine Gravel, Sand) [0]

## RIFFLE / RUN EMBEDDEDNESS

<input type="checkbox"/>	NONE [2]
<input type="checkbox"/>	LOW [1]
<input checked="" type="checkbox"/>	MODERATE [0]
<input type="checkbox"/>	EXTENSIVE [-1]

Riffle /  
Run  
Maximum 8

0

Comments

## 6] GRADIENT

## DRAINAGE AREA

( 1.38 mi<sup>2</sup>)

<input type="checkbox"/>	VERY LOW - LOW [2-4]
<input type="checkbox"/>	MODERATE [6-10]
<input checked="" type="checkbox"/>	HIGH - VERY HIGH [10-6]

%POOL:

40

%GLIDE:

0

%RUN:

30

%RIFFLE:

30

Gradient  
Maximum 10

6

## AJ SAMPLED REACH

Check ALL that apply

### METHOD

- ☐ BOAT  
☒ WADE  
☐ L. LINE  
☐ OTHER

### STAGE

1st-sample pass-- 2nd

- ☐ HIGH  
☐ UP  
☒ NORMAL  
☐ LOW  
☐ DRY

### DISTANCE

- ☐ 0.5 Km  
☐ 0.2 Km  
☐ 0.15 Km  
☐ 0.12 Km  
☐ OTHER

200 feet

### CANOPY

- ☐ > 85%- OPEN  
☐ 55%-<85%  
☒ 30%-<55%  
☐ 10%-<30%  
☐ <10%- CLOSED

### CLARITY

1st --sample pass-- 2nd

- ☐ < 20 cm  
☐ 20-<40 cm  
☐ 40-70 cm  
☐ > 70 cm/ CTB  
☐ SECCHI DEPTH

1st \_\_\_\_\_ cm

2nd \_\_\_\_\_ cm

### CJ REC

### BJAESTHETIC

- ☐ NUISANCE ALGAE  
☐ INVASIVE MACROPHYTES  
☐ EXCESS TURBIDITY  
☐ DISCOLORATION  
☐ FOAM / SCUM  
☐ OIL SHEEN  
☐ TRASH / LITTER  
☐ NUISANCE ODOR  
☐ SLUDGE DEPOSITS  
☐ CSOs/SSOs/OUTFALLS

ION AREA DEPTH  
POOL: ☐ >100ft<sup>2</sup> ☐ >3ft

### DJ MAINTENANCE

PUBLIC / PRIVATE / BOTH / NA  
ACTIVE / HISTORIC / BOTH / NA  
YOUNG-SUCCESSION-OLD  
SPRAY / SNAG / REMOVED  
MODIFIED / DIPPED OUT / NA  
LEVEED / ONE SIDED  
RELOCATED / CUTOFFS  
MOVING-BEDLOAD-STABLE  
ARMOURED / SLUMPS  
ISLANDS / SCoured  
IMPOUNDED / DESICCATED  
FLOOD CONTROL / DRAINAGE

Circle some & COMMENT

### EJ ISSUES

WWTP / CSO / NPDES / INDUSTRY  
HARDENED / URBAN / DIRT&GRIME  
CONTAMINATED / LANDFILL  
BMPs-CONSTRUCTION-SEDIMENT  
LOGGING / IRRIGATION / COOLING  
BANK / EROSION / SURFACE  
FALSE BANK / MANURE / LAGOON  
WASH H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE  
ACID / MINE / QUARRY / FLOW  
NATURAL / WETLAND / STAGNANT  
PARK / GOLF / LAWN / HOME  
ATMOSPHERE / DATA PAUCITY

### FJ MEASUREMENTS

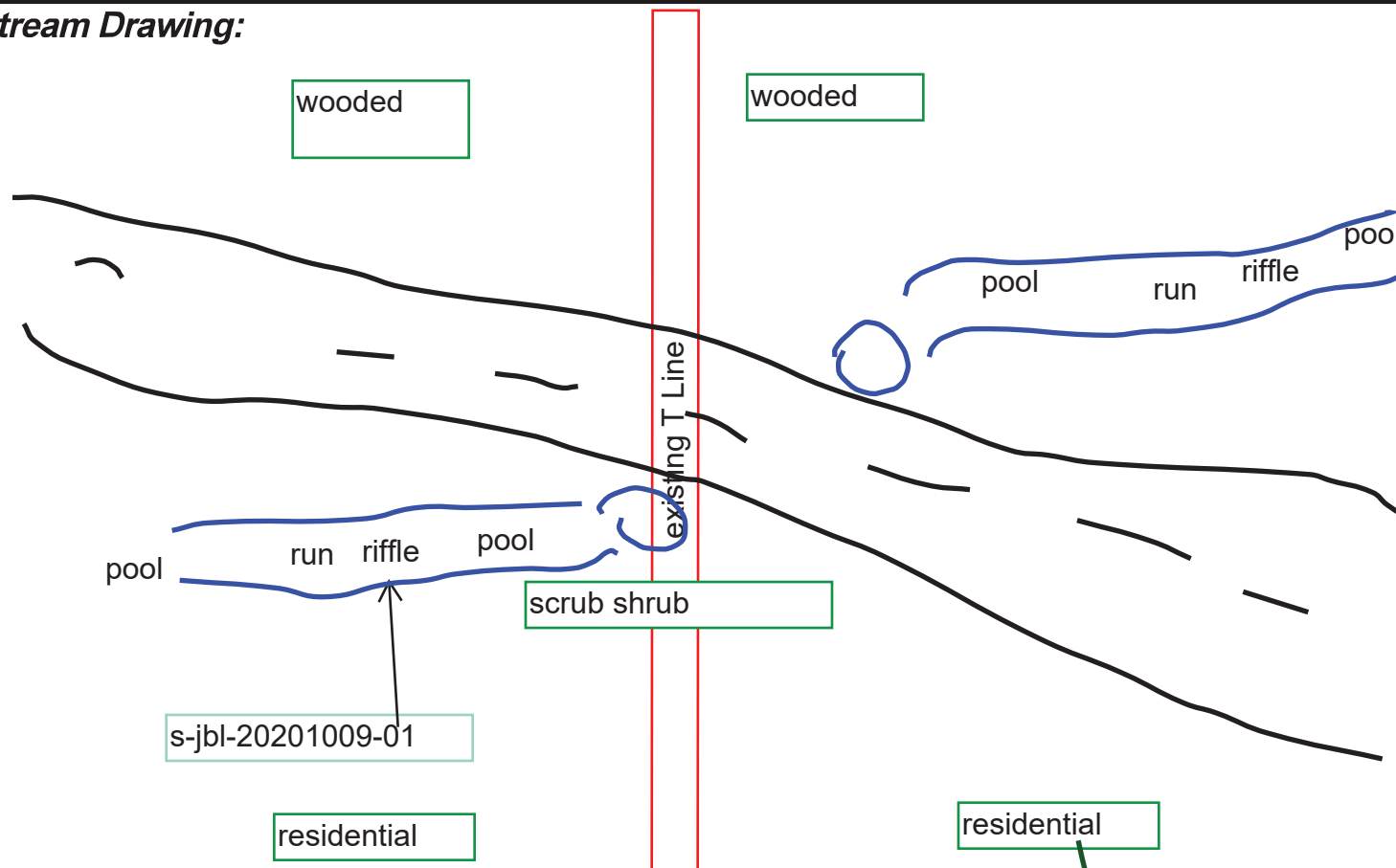
$\bar{x}$  width  
 $\bar{x}$  depth  
max. depth 8 in  
 $\bar{x}$  bankfull width /  $\pi$   
bankfull  $\bar{x}$  depth  
W/D ratio  
bankfull max. depth  
floodprone  $x^2$  width  
entrench. ratio

Le Tree:

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

Snake Run existing ALU = LRW-acid mine drainage

## Stream Drawing:





<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110, 60618779, 60616126
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<b>Stream 005</b>	
<b>Date:</b> October 9, 2020	
<b>Description:</b>  Perennial  Limited Resource Water  Facing Upstream	

<b>Stream 005</b>	
<b>Date:</b> October 9, 2020	
<b>Description:</b>  Perennial  Limited Resource Water  Facing Downstream	

<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110, 60618779, 60616126
----------------------------	---	---

<b>Stream 005</b>	
<b>Date:</b> October 9, 2020	
<b>Description:</b>  Perennial  Limited Resource Water  Substrate	





## Primary Headwater Habitat Evaluation Form

24

HHEI Score (sum of metrics 1, 2, 3) :

SITE NAME/LOCATION **AEP Crooksville-North Newark 138 kV Transmission Line Project**

s-jbl-20201009-02

SITE NUMBER

RIVER BASIN

Muskingum

DRAINAGE AREA (mi<sup>2</sup>)

0.03

LENGTH OF STREAM REACH (ft)

200

LAT.

39.76884

LONG.

-82.11082

RIVER CODE

RIVER MILE

0.34

DATE 10/09/20

SCORER

jbl,rcm

COMMENTS

ephemeral

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions

## STREAM CHANNEL

☐

NONE / NATURAL CHANNEL

☐

RECOVERED

☒

RECOVERING

☐

RECENT OR NO RECOVERY

## MODIFICATIONS:

trees clearing equipment driven through

1. **SUBSTRATE** (Estimate percent of every type of substrate present. Check *ONLY* two predominant substrate *TYPE* boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [16 pts]	<input type="text" value="0%"/>	<input checked="" type="checkbox"/> SILT [3 pt]	<input type="text" value="30%"/>
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<input type="text" value="0%"/>	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<input type="text" value="25%"/>
<input type="checkbox"/> BEDROCK [16 pt]	<input type="text" value="0%"/>	<input type="checkbox"/> FINE DETRITUS [3 pts]	<input type="text" value="0%"/>
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<input type="text" value="5%"/>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	<input type="text" value="0%"/>
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<input type="text" value="10%"/>	<input type="checkbox"/> MUCK [0 pts]	<input type="text" value="0%"/>
<input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	<input type="text" value="30%"/>	<input type="checkbox"/> ARTIFICIAL [3 pts]	<input type="text" value="0%"/>

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock

5.00%

(A)

Substrate Percentage Check

100%

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

9

TOTAL NUMBER OF SUBSTRATE TYPES:

5

## HHEI Metric Points

Substrate Max = 40

14

A + B

Pool Depth Max = 30

5

Bankfull Width Max=30

5

2. **Maximum Pool Depth** (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> > 5 cm - 10 cm [15 pts]
<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input checked="" type="checkbox"/> < 5 cm [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS

MAXIMUM POOL DEPTH

(Inches):

0.50

3. **BANK FULL WIDTH** (Measured as the average of 3-4 measurements) (Check *ONLY* one box):

<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input checked="" type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]
<input type="checkbox"/> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	

COMMENTS

AVERAGE BANKFULL WIDTH

(Feet):

2.00

## This information must also be completed

## RIPARIAN ZONE AND FLOODPLAIN QUALITY

☆NOTE: River Left (L) and Right (R) as looking downstream ☆

## RIPARIAN WIDTH

## FLOODPLAIN QUALITY

L	R	(Per Bank)	L	R	(Most Predominant per Bank)	L	R	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Wide >10m	<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m	<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	None	<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS

FLOW REGIME (At Time of Evaluation) (Check *ONLY* one box):

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input checked="" type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

## STREAM GRADIENT ESTIMATE

☐ Flat (0.5 ft/100 ft)
 ☐ Flat to Moderate
 ☐ Moderate (2 ft/100 ft)
 ☒ Moderate to Severe
 ☐ Severe (10 ft/100 ft)

**ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):**

QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score  (If Yes, Attach Completed QHEI Form)

**DOWNSTREAM DESIGNATED USE(S)**

☒ WWH Name: **Burley Run (LRW)** Distance from Evaluated Stream **0.34**  
☐ CWH Name:  Distance from Evaluated Stream   
☐ EWH Name:  Distance from Evaluated Stream

**MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION**

USGS Quadrangle Name: **Crooksville** NRCS Soil Map Page:  NRCS Soil Map Stream Order   
County: **Perry** Township / City: **Harrison**

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): **Y** Date of last precipitation: **10/06/20** Quantity: **0.25**  
Photograph Information: **3 photos, upstream, downstream and substrate**  
Elevated Turbidity? (Y/N): **N** Canopy (% open): **25%**  
Were samples collected for water chemistry? (Y/N): **N** (Note lab sample no. or id. and attach results) Lab Number:   
Field Measures: Temp (°C)  Dissolved Oxygen (mg/l)  pH (S.U.)  Conductivity (µmhos/cm)   
Is the sampling reach representative of the stream (Y/N) **Y** If not, please explain:

Additional comments/description of pollution impacts:

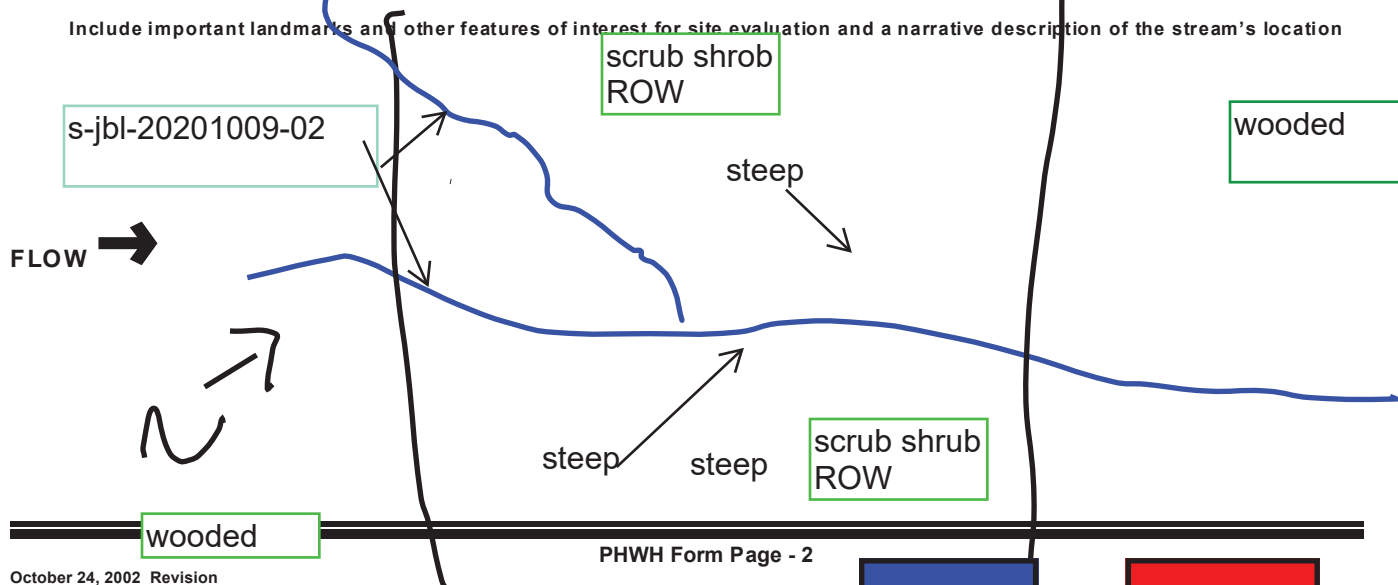
Overall Stability of BOTH Stream Banks (check one): **Stable** ☐ **Moderately Stable** ☐ **Unstable** ☒

**BIOTIC EVALUATION**

Performed? (Y/N): **N** (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)  
Fish Observed? (Y/N) **N** Voucher? (Y/N) **N** Salamanders Observed? (Y/N) **N** Voucher? (Y/N) **N**  
Frogs or Tadpoles Observed? (Y/N) **N** Voucher? (Y/N) **N** Aquatic Macroinvertebrates Observed? (Y/N) **N** Voucher? (Y/N) **N**  
Comments Regarding Biology: **none observed**

**DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):**

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110, 60618779, 60616126
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<b>Stream 006</b>	
<b>Date:</b> October 9, 2020	
<b>Description:</b>  Ephemeral  Modified Ephemeral Stream  Facing Upstream	

<b>Stream 006</b>	
<b>Date:</b> October 9, 2020	
<b>Description:</b>  Ephemeral  Modified Ephemeral Stream  Facing Downstream	



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110, 60618779, 60616126
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<b>Stream 006</b>	
<b>Date:</b> October 9, 2020	
<b>Description:</b>  Ephemeral  Modified Ephemeral Stream  Substrate	



# Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score:

44

Stream &amp; Location: s-jbl-20201009-03 / AEP Crooksville-North Newark 138 kV RM: 0.2 Date: 10/09/2020

Scorers Full Name &amp; Affiliation: jbl,rcm AECOM

River Code: - STORET #: Lat./ Long.: 39.772007, -82.114145 Office verified location ☐

## 1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

Check ONE (Or 2 &amp; average)

BEST TYPES		POOL RIFFLE		OTHER TYPES		POOL RIFFLE		ORIGIN		QUALITY		Substrate 14 Maximum 20
<input type="checkbox"/>	BLDR /SLABS [10]	<input type="checkbox"/>	0	<input type="checkbox"/>	HARDPAN [4]	<input type="checkbox"/>		<input checked="" type="checkbox"/>	LIMESTONE [1]	<input type="checkbox"/>	HEAVY [-2]	
<input type="checkbox"/>	BOULDER [9]	<input type="checkbox"/>		<input type="checkbox"/>	DETRITUS [3]	<input type="checkbox"/>		<input type="checkbox"/>	TILLS [1]	<input checked="" type="checkbox"/>	MODERATE [-1]	
<input type="checkbox"/>	COBBLE [8]	<input type="checkbox"/>	0	<input type="checkbox"/>	MUCK [2]	<input type="checkbox"/>		<input type="checkbox"/>	WETLANDS [0]	<input type="checkbox"/>	NORMAL [0]	
<input checked="" type="checkbox"/>	GRAVEL [7]	<input type="checkbox"/>	20	<input type="checkbox"/>	SILT [2]	<input type="checkbox"/>	10	<input type="checkbox"/>	HARDPAN [0]	<input type="checkbox"/>	FREE [1]	
<input checked="" type="checkbox"/>	SAND [6]	<input type="checkbox"/>	60	<input type="checkbox"/>	ARTIFICIAL [0]	<input type="checkbox"/>	10	<input type="checkbox"/>	SANDSTONE [0]	<input type="checkbox"/>	EXTENSIVE [-2]	
<input type="checkbox"/>	BEDROCK [5]	<input type="checkbox"/>		(Score natural substrates; ignore sludge from point-sources)				<input type="checkbox"/>	RIP/RAP [0]	<input checked="" type="checkbox"/>	MODERATE [-1]	
NUMBER OF BEST TYPES: <input checked="" type="checkbox"/> 4 or more [2] <input type="checkbox"/> 3 or less [0]								<input type="checkbox"/>	LACUSTURINE [0]	<input type="checkbox"/>	NORMAL [0]	Channel Maximum 20
Comments								<input type="checkbox"/>	SHALE [-1]	<input type="checkbox"/>	NONE [1]	
								<input type="checkbox"/>	COAL FINES [-2]			

## 2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

## AMOUNT

Check ONE (Or 2 &amp; average)

UNDERCUT BANKS [1]		POOLS > 70cm [2]		OXBOWS, BACKWATERS [1]		AMOUNT	
<input type="checkbox"/>	OVERHANGING VEGETATION [1]	<input type="checkbox"/>	0	<input type="checkbox"/>	2	<input type="checkbox"/>	EXTENSIVE >75% [11]
<input type="checkbox"/>	SHALLOWS (IN SLOW WATER) [1]	<input type="checkbox"/>	0	<input type="checkbox"/>	0	<input checked="" type="checkbox"/>	MODERATE 25-75% [7]
<input type="checkbox"/>	ROOTMATS [1]	<input type="checkbox"/>	0	<input type="checkbox"/>	0	<input checked="" type="checkbox"/>	SPARSE 5-<25% [3]
				<input type="checkbox"/>	0	<input type="checkbox"/>	NEARLY ABSENT <5% [1]

Comments

Cover  
Maximum  
20

6

## 3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 &amp; average)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]
<input type="checkbox"/> MODERATE [3]	<input checked="" type="checkbox"/> GOOD [5]	<input checked="" type="checkbox"/> RECOVERED [4]	<input checked="" type="checkbox"/> MODERATE [2]
<input checked="" type="checkbox"/> LOW [2]	<input checked="" type="checkbox"/> FAIR [3]	<input checked="" type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]	

Comments

Channel  
Maximum  
20

11.5

## 4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank &amp; average)

River right looking downstream

EROSION		RIPARIAN WIDTH		FLOOD PLAIN QUALITY		CONSERVATION TILLAGE [1]	
<input type="checkbox"/> NONE / LITTLE [3]	<input type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> FOREST, SWAMP [3]	<input type="checkbox"/> CONSERVATION TILLAGE [1]				
<input checked="" type="checkbox"/> MODERATE [2]	<input type="checkbox"/> MODERATE 10-50m [3]	<input checked="" type="checkbox"/> SHRUB OR OLD FIELD [2]	<input type="checkbox"/> URBAN OR INDUSTRIAL [0]				
<input checked="" type="checkbox"/> HEAVY / SEVERE [1]	<input type="checkbox"/> NARROW 5-10m [2]	<input checked="" type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> MINING / CONSTRUCTION [0]				
	<input type="checkbox"/> VERY NARROW < 5m [1]	<input type="checkbox"/> FENCED PASTURE [1]					
	<input checked="" type="checkbox"/> NONE [0]	<input type="checkbox"/> OPEN PASTURE, ROWCROP [0]					

Comments

1.5 + 0 + 1

Indicate predominant land use(s) past 100m riparian.

Riparian  
Maximum  
10

2.5

## 5] POOL / GLIDE AND RIFFLE / RUN QUALITY

## MAXIMUM DEPTH

Check ONE (ONLY!)

- ☐ > 1m [6]  
☐ 0.7-<1m [4]  
☐ 0.4-<0.7m [2]  
☐ 0.2-<0.4m [1]  
☒ < 0.2m [0]

## CHANNEL WIDTH

Check ONE (Or 2 &amp; average)

- ☐ POOL WIDTH > RIFFLE WIDTH [2]  
☒ POOL WIDTH = RIFFLE WIDTH [1]  
☐ POOL WIDTH < RIFFLE WIDTH [0]

## CURRENT VELOCITY

Check ALL that apply

- ☐ TORRENTIAL [-1] ☐ SLOW [1]  
☐ VERY FAST [1] ☐ INTERSTITIAL [-1]  
☐ FAST [1] ☐ INTERMITTENT [-2]  
☒ MODERATE [1] ☐ EDDIES [1]

Indicate for reach - pools and riffles.

## Recreation Potential

## Primary Contact

## Secondary Contact

(circle one and comment on back)

Comments 5"deep

Pool /  
Current  
Maximum  
12

2

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:

Check ONE (Or 2 &amp; average).

☒ NO RIFFLE [metric=0]

RIFFLE DEPTH	RUN DEPTH	RIFFLE / RUN SUBSTRATE	RIFFLE / RUN EMBEDDEDNESS
<input type="checkbox"/> BEST AREAS > 10cm [2]	<input type="checkbox"/> MAXIMUM > 50cm [2]	<input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input type="checkbox"/> BEST AREAS 5-10cm [1]	<input type="checkbox"/> MAXIMUM < 50cm [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> BEST AREAS < 5cm [metric=0]		<input type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]
			<input type="checkbox"/> EXTENSIVE [-1]

Comments

Riffle /  
Run  
Maximum  
8

0

6] GRADIENT ( 50 ft/mi) ☐ VERY LOW - LOW [2-4]  
 DRAINAGE AREA ( 1.2 mi<sup>2</sup>) ☐ MODERATE [6-10]  
☒ HIGH - VERY HIGH [10-6]

%POOL:  %GLIDE: 100  
 %RUN:  %RIFFLE:

Gradient  
Maximum  
10

8



## AJ SAMPLED REACH

Check ALL that apply

### METHOD

- ☐ BOAT  
☒ WADE  
☐ L. LINE  
☐ OTHER

### STAGE

- 1st -sample pass- 2nd  
☐ HIGH  
☐ UP  
☒ NORMAL  
☐ LOW  
☐ DRY

### DISTANCE

- ☐ 0.5 Km  
☐ 0.2 Km  
☐ 0.15 Km  
☐ 0.12 Km  
☐ OTHER

200 feet

### CANOPY

- ☐ > 85%- OPEN  
☐ 55%<85%  
☒ 30%<55%  
☐ 10%<30%  
☐ <10%- CLOSED

### CLARITY

- 1st -sample pass- 2nd  
☐ < 20 cm  
☐ 20-<40 cm  
☐ 40-70 cm  
☐ > 70 cm/ CTB  
☐ SECCHI DEPTH

1st \_\_\_\_\_ cm

2nd \_\_\_\_\_ cm

### CJ REC

### BJAESTHETIC

- ☐ NUISANCE ALGAE  
☐ INVASIVE MACROPHYTES  
☐ EXCESS TURBIDITY  
☐ DISCOLORATION  
☐ FOAM / SCUM  
☐ OIL SHEEN  
☐ TRASH / LITTER  
☐ NUISANCE ODOR  
☐ SLUDGE DEPOSITS  
☐ CSOs/SSOs/OUTFALLS

ION AREA DEPTH  
POOL: ☐ >100ft<sup>2</sup> ☐ >3ft

### DJ MAINTENANCE

PUBLIC / PRIVATE / BOTH / NA  
ACTIVE / HISTORIC / BOTH / NA  
YOUNG-SUCCESSION-OLD  
SPRAY / SNAG / REMOVED  
MODIFIED / DIPPED OUT / NA  
LEVEED / ONE SIDED  
RELOCATED / CUTOFFS  
MOVING-BEDLOAD-STABLE  
ARMOURED / SLUMPS  
ISLANDS / SCoured  
IMPOUNDED / DESICCATED  
FLOOD CONTROL / DRAINAGE

Circle some & COMMENT

### EJ ISSUES

WWTP / CSO / NPDES / INDUSTRY  
HARDENED / URBAN / DIRT&GRIME  
CONTAMINATED / LANDFILL  
BMPs-CONSTRUCTION-SEDIMENT  
LOGGING / IRRIGATION / COOLING  
BANK / EROSION / SURFACE  
FALSE BANK / MANURE / LAGOON  
WASH H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE  
ACID / MINE / QUARRY / FLOW  
NATURAL / WETLAND / STAGNANT  
PARK / GOLF / LAWN / HOME  
ATMOSPHERE / DATA PAUCITY

### FJ MEASUREMENTS

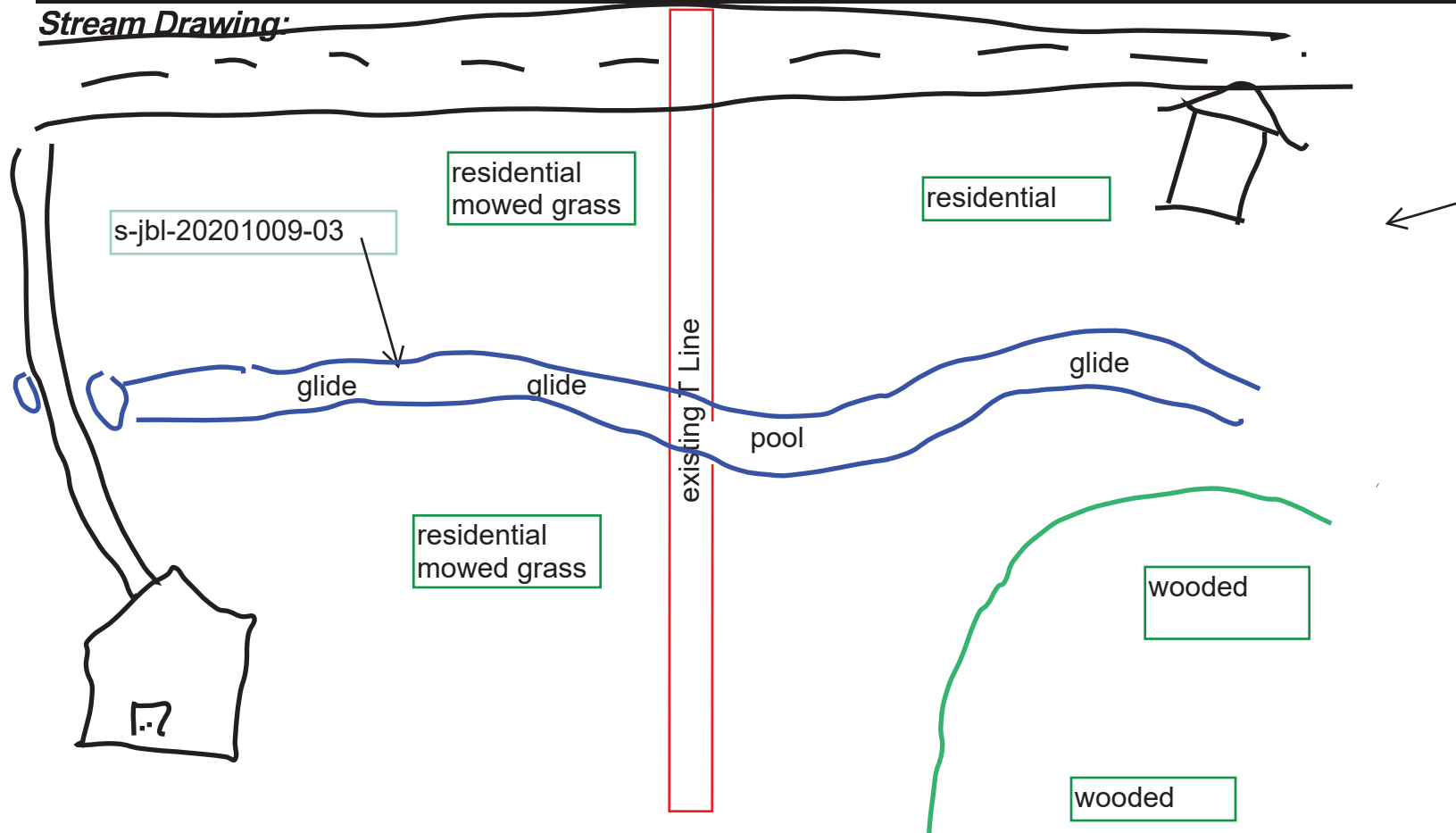
$\bar{x}$  width  
 $\bar{x}$  depth  
max. depth <sup>5in</sup>  
 $\bar{x}$  bankfull width <sup>4 ft</sup>  
bankfull  $\bar{x}$  depth  
W/D ratio  
bankfull max. depth  
floodprone x<sup>2</sup> width  
entrench. ratio

Le Tree:

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

Unnamed nhd-mapped tributary to Burley Run, no existing ALU, historic strip mining in watershed.

## Stream Drawing:



<b>Client Name:</b> AEP	<b>Site Location:</b> Crooksville-North Newark 138 kV Transmission Line Rebuild Project	<b>Project No.</b> 60616110, 60618779, 60616126
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<b>Stream 007</b>	
<b>Date:</b> October 9, 2020	
<b>Description:</b>  Perennial  Warmwater Habitat - Fair  Facing Upstream	

<b>Stream 007</b>	
<b>Date:</b> October 9, 2020	
<b>Description:</b>  Perennial  Warmwater Habitat - Fair  Facing Downstream	

**This foregoing document was electronically filed with the Public Utilities  
Commission of Ohio Docketing Information System on**

**12/2/2021 3:08:14 PM**

**in**

**Case No(s). 21-1206-EL-BLN**

Summary: Notice Letter of Notification Part 8 electronically filed by Hector Garcia-Santana on behalf of AEP Ohio Transmission Company, Inc.