Wetland 32	Rater(s): C. ASHBAUGH/B.MILLER	Date: 11/13/2018

W-CBA-008 PEM

	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 Praires (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
max 20pts.	subtotal

Metric 6. Plant communities, interspersion, 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.

- [ ] Vegetated hummucks/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 generallyw/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	**GRAND TOTAL(max 100 pts)**

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 32
Date:
November 13, 2018
Description:
PEM
Modified Category 2
Facing North

Wetland 32
Date:
November 13, 2018
Description:
PEM
Modified Category 2
Facing East

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 32
Date:
November 13, 2018
Description:
PEM
Modified Category 2
Facing South

Wetland 32
Date:
November 13, 2018
Description:
PEM
Modified Category 2
Facing West

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 32 **Date:** November 13, 2018 **Description:** PEM Modified Category 2 Soil Pit	

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton-Gable **City/County:** Carroll **Sampling Date:** 13-Nov-18

Applicant/Owner: AEP **State:** OH **Sampling Point:** W-CBA-010 PEM

Investigator(s): C.Ashbaugh, B.Miller **Section, Township, Range:** S 10 T Lee - 13N R 5W

Landform (hillslope, terrace, etc.): Floodplain **Local relief (concave, convex, none):** concave **Slope:** 3.0% / 1.7 °

Subregion (LRR or MLRA): LRR N **Lat.:** 40.529408 **Long.:** -81.003018 **Datum:** NAD83

Soil Map Unit Name: WmD; Westmoreland-Coshocton silt loams, 15 to 25 percent slopes **NWI classification:** N/A

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:
This PEM wetland is located on a concave bench at the toe of slope above the floodplain of a perennial watercourse (S-CBA-007). The wetland is located in forest land on the edge of an existing electric transmission powerline ROW in a bison pasture. Wetland boundary follows the hydrophytic vegetation community dominated by Poa palustris. Intermittent stream S-CBA-010 formed from a groundwater seep drains into the wetland.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☑ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☑ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 1

Water Table Present? Yes ◉ No ○ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): 0

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

Source of hydrology is a groundwater seep located on the hillside above the wetland, surface water collection and overland flow from adjacent perennial watercourse. Oily sheen observed on surface water.

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

Sampling Point: W-CBA-010 PEM

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 5 ft radius)				
1. *Poa palustris*	75	☑	83.3%	FACW
2. *Carex lurida*	10	☐	11.1%	OBL
3. *Juncus effusus*	5	☐	5.6%	FACW
4. *Agrimonia parviflora*	0	☐	0.0%	FACW
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	90	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	10	x 1 =	10	
FACW species	80	x 2 =	160	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	90	(A)	170	(B)

Prevalence Index = B/A = 1.889

Hydrophytic Vegetation Indicators:

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

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

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

Soil

Sampling Point: W-CBA-010 PEM

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type [1]	Loc²	Texture	Remarks
0-12	10YR 5/1	95	10YR 4/4	5	C	PL	Silty Clay Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☑ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☑ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Shovel refusal at 12 inches due to rock.

Upland 33

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton-Gable **City/County:** Carroll **Sampling Date:** 13-Nov-18

Applicant/Owner: AEP **State:** OH **Sampling Point:** W-CBA-010 UPL

Investigator(s): C.Ashbaugh, B.Miller **Section, Township, Range:** S 10 T Lee - 13N R 5

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** flat **Slope:** 15.0% / 8.5 °

Subregion (LRR or MLRA): LRR N **Lat.:** 40.529149 **Long.:** -81.002948 **Datum:** NAD83

Soil Map Unit Name: WmD; Westmoreland-Coshocton silt loams, 15 to 25 percent slopes **NWI classification:** N/A

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

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

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

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

Hydrophytic Vegetation Present? Yes ○ No ◉

Hydric Soil Present? Yes ○ No ◉

Wetland Hydrology Present? Yes ○ No ◉

Is the Sampled Area within a Wetland? Yes ○ No ◉

Remarks:
Upland sample point associated with wetland W-CBA-010 PEM. Sample point located in existing electric transmission powerline ROW above perennial watercourse S-CBA-007.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:
No hydrology observed.

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

Sampling Point: W-CBA-010 UPL

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 5 ft radius)				
1. *Dactylis glomerata*	75	☑	57.7%	FACU
2. *Daucus carota*	15	☐	11.5%	UPL
3. *Plantago lanceolata*	10	☐	7.7%	UPL
4. *Trifolium repens*	10	☐	7.7%	FACU
5. *Viola sororia*	10	☐	7.7%	FAC
6. *Taraxacum officinale*	5	☐	3.8%	FACU
7. *Glechoma hederacea*	5	☐	3.8%	FACU
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	130	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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: 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	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	10	x 3 =	30	
FACU species	95	x 4 =	380	
UPL species	25	x 5 =	125	
Column Totals:	130	(A)	535	(B)

Prevalence Index = B/A = 4.115

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ○ No ◉

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

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

Soil

Sampling Point: W-CBA-010 UPL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type [1]	Loc²	Texture	Remarks
0-3	10YR 4/3	100					Silt Loam	
3-12	10YR 5/3	100					Silt Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Shovel refusal at 12 inches due to rock.

Wetland 33	Rater(s): C. ASHBAUGH/B.MILLER	Date: 11/13/2018

Metric 1. Wetland Area (size). W-CBA-010 PEM

0 (max 6 pts) | 0 (subtotal)

Select one size class and assign score.

0.02 acres

- [ ] >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)
- [x] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

4 (max 14 pts.) | 4 (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)
- [x] 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)
- [X] LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- [X] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [ ] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

13.0 (max 30 pts.) | 17 (subtotal)

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

- [ ] High pH groundwater (5)
- [x] Other groundwater (3)
- [x] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [x] 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)
- [x] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [ ] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

5 (max 20 pts.) | 22 (subtotal)

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

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [x] 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)
- [x] 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)
- [x] Recent or no recovery (1)

Check all disturbances observed

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

22 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland 33	Rater(s): C. ASHBAUGH/B.MILLER	Date: 11/13/2018

W-CBA-010 PEM

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 Praires (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 / 25 — max 20pts. / subtotal

Metric 6. Plant communities, interspersion, 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.

- [1] Vegetated hummucks/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 generallyw/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)**

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 33 **Date:** November 13, 2018 **Description:** PEM Category 1 Facing North	

Wetland 33 **Date:** November 13, 2018 **Description:** PEM Category 1 Facing East	

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 33
Date: November 13, 2018
Description: PEM Category 1 Facing South

Wetland 33
Date: November 13, 2018
Description: PEM Category 1 Facing West

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 33

Date:

November 13, 2018

Description:

PEM

Category 1

Soil Pit

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton-Gable **City/County:** Carroll **Sampling Date:** 14-Nov-18

Applicant/Owner: AEP **State:** OH **Sampling Point:** **W-CBA-011 PEM**

Investigator(s): C.Ashbaugh, B.Miller **Section, Township, Range:** **S** 4 **T** 13N - Lee **R** 5W

Landform (hillslope, terrace, etc.): Floodplain **Local relief (concave, convex, none):** concave **Slope:** 0.5% / 0.3 °

Subregion (LRR or MLRA): MLRA 127 in LRR N **Lat.:** 40.519820 **Long.:** -80.990072 **Datum:** NAD83

Soil Map Unit Name: BkE; Berks channery silt loam, 25 to 35 percent slopes **NWI classification:** R4SBC

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 ◉	No ○	
Hydric Soil Present?	Yes ◉	No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks:
PEM wetland located in stream valley/floodplain of perennial stream S-CBA-012. The boundary of the wetland follows the edge of the right-of-way.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	
Water Table Present?	Yes ◉	No ○	Depth (inches): 10	
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 8	**Wetland Hydrology Present?** Yes ◉ No ○

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

Remarks:
Primary source of hydrology is surface water collection and overland flow from adjacent perennial stream.

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

Sampling Point: W-CBA-011 PEM

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 5' radius)				
1. *Phalaris arundinacea*	100	☑	83.3%	FACW
2. *Eupatorium perfoliatum*	10	☐	8.3%	FACW
3. *Onoclea sensibilis*	5	☐	4.2%	FACW
4. *Symplocarpus foetidus*	5	☐	4.2%	OBL
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	120	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	5	x 1 =	5
FACW species	115	x 2 =	230
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	120 (A)		235 (B)

Prevalence Index = B/A = 1.958

Hydrophytic Vegetation Indicators:

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

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

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

Soil

Sampling Point: W-CBA-011 PEM

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc²	Texture	Remarks
0-6	10YR	4/2	100						Silt Loam	
6-12	10YR	4/1	85	10YR	3/6	15	C	M	Silt Loam	oxidized rhizospheres

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

Upland 34, 35

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton-Gable **City/County:** Carroll **Sampling Date:** 14-Nov-18

Applicant/Owner: AEP **State:** OH **Sampling Point:** **W-CBA-011/012 UPL**

Investigator(s): C.Ashbaugh, B.Miller **Section, Township, Range:** **S** 4 **T** 13N - Lee **R** 5W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** none **Slope:** 0.5% / 0.3 °

Subregion (LRR or MLRA): MLRA 127 in LRR N **Lat.:** 40.519643 **Long.:** -80.989855 **Datum:** NAD83

Soil Map Unit Name: BkE; Berks channery 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 ◉ 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 ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
Upland sample point associated with wetlands W-CBA-011 PEM and W-CBA-012 PEM. Upland sample point located on a steep hill on an upland saddle between S-CBA-013 and S-CBA-014 and upslope of the floodplain of perennial stream S-CBA-012.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):	**Wetland Hydrology Present?** Yes ○ No ◉

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

Remarks:
No hydrology observed.

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

Sampling Point: W-CBA-011/012 UPL

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size: 15' radius)				
1. *Corylus americana*	15	☑	100.0%	FACU
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	15	= Total Cover		
Herb Stratum (Plot size: 5' radius)				
1. *Glechoma hederacea*	15	☑	37.5%	FACU
2. *Rumex crispus*	10	☑	25.0%	FAC
3. *Solidago albopilosa*	5	☐	12.5%	UPL
4. *Phytolacca americana*	5	☐	12.5%	FACU
5. *Polystichum acrostichoides*	5	☐	12.5%	FACU
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	40	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	40	x 4 =	160
UPL species	5	x 5 =	25
Column Totals:	55 (A)		215 (B)

Prevalence Index = B/A = 3.909

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ○ No ◉

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

Poa sp 25%, moss 40%

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

Soil

Sampling Point: W-CBA-011/012 UPL

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type [1]	Loc²	Texture	Remarks
0-6	10YR 3/3	100					Silt Loam	40% gravel fill

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Wetland 34	Rater(s): C. ASHBAUGH/B.MILLER	Date: 11/14/2018

Metric 1. Wetland Area (size). W-CBA-011 PEM

1 (max 6 pts) | 1 (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)
x	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
	<0.1 acres (0.04ha) (0 pts)

0.1 acres

Metric 2. Upland buffers and surrounding land use.

5 (max 14 pts.) | 6 (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)
x	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

wet

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)
x	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)

Metric 3. Hydrology.

14.0 (max 30 pts.) | 20 (subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

	>0.7 (27.6in) (3)
	0.4 to 0.7m (15.7 to 27.6in) (2)
x	<0.4m (<15.7in) (1)

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

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

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

	None or none apparent (12)
	Recovered (7)
x	Recovering (3)
	Recent or no recovery (1)

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

8 (max 20 pts.) | 28 (subtotal)

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

x	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)
x	Poor (1)

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

	None or none apparent (9)
	Recovered (6)
x	Recovering (3)
	Recent or no recovery (1)

Check all disturbances observed

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

28 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland 34	Rater(s): C. ASHBAUGH/B.MILLER	Date: 11/14/2018

W-CBA-011 PEM

28 — subtotal this page

0 | 28 — 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 Praires (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 | 26 — max 20pts. | subtotal

Metric 6. Plant communities, interspersion, 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)
- [x] Low (1)
- [ ] None (0)

6c. Coverage of invasive plants. Refer

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

- [x] 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 hummucks/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 generallyw/o presence of rare threatened or endangered spp to
A predominance of native species, with nonnative spp high and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

Category 1

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

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 34
Date:
November 14, 2018
Description:
PEM
Category 1
Facing North

Wetland 34
Date:
November 14, 2018
Description:
PEM
Category 1
Facing East

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 34
Date: November 14, 2018
Description: PEM Category 1 Facing South

Wetland 34
Date: November 14, 2018
Description: PEM Category 1 Facing West

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 34
Date: November 14, 2018
Description: PEM Category 1 Soil Pit

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton-Gable **City/County:** Carroll **Sampling Date:** 14-Nov-18

Applicant/Owner: AEP **State:** OH **Sampling Point:** **W-CBA-012 PEM**

Investigator(s): C.Ashbaugh, B.Miller **Section, Township, Range:** **S** 4 **T** 13N - Lee **R** 5

Landform (hillslope, terrace, etc.): Floodplain **Local relief (concave, convex, none):** concave **Slope:** 5.0% / 2.9 °

Subregion (LRR or MLRA): MLRA 127 in LRR N **Lat.:** 40.519758 **Long.:** -80.990287 **Datum:** NAD83

Soil Map Unit Name: BkE; Berks channery silt loam, 25 to 35 percent slopes **NWI classification:** R4SBC

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 ◉	No ○	
Hydric Soil Present?	Yes ◉	No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks:
Sparsely vegetated concave surface PEM wetland located in the floodplain of adjacent perennial stream S-CBA-012. Wetland is located at the toe of slope and is fed by multiple groundwater seeps. Wetland boundary follows the edge of the concave depression.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches):	1	
Water Table Present?	Yes ◉	No ○	Depth (inches):	8	**Wetland Hydrology Present?** Yes ◉ No ○
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	10	

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

Remarks:
Primary source of hydrology is multiple groundwater seeps located in the hillside.

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

Sampling Point: W-CBA-012 PEM

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 5' radius)				
1. *Symplocarpus foetidus*	25	☑	55.6%	OBL
2. *Agrimonia microcarpa*	5	☐	11.1%	UPL
3. *Lysimachia nummularia*	10	☑	22.2%	FACW
4. *Polystichum acrostichoides*	5	☐	11.1%	FACU
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	45	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	25	x 1 =	25
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	5	x 5 =	25
Column Totals:	45 (A)		90 (B)

Prevalence Index = B/A = 2.000

Hydrophytic Vegetation Indicators:

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

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

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

Soil

Sampling Point: W-CBA-012 PEM

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc[2]	Texture	Remarks
0-8	10YR	4/2	95	10YR	4/6	5	C	M	Silt Loam	
8-12	10YR	4/1	75	10YR	4/6	25	C	PL	Silt Loam	oxidized rhizospheres
12-16	10YR	4/1	75	10YR	3/6	25	C	PL	Silt Loam	oxidized rhizospheres

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]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[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Upland 34, 35

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton-Gable **City/County:** Carroll **Sampling Date:** 14-Nov-18

Applicant/Owner: AEP **State:** OH **Sampling Point:** **W-CBA-011/012 UPL**

Investigator(s): C.Ashbaugh, B.Miller **Section, Township, Range:** **S** 4 **T** 13N - Lee **R** 5W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** none **Slope:** 0.5% / 0.3 °

Subregion (LRR or MLRA): MLRA 127 in LRR N **Lat.:** 40.519643 **Long.:** -80.989855 **Datum:** NAD83

Soil Map Unit Name: BkE; Berks channery 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 ◉ 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 ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
Upland sample point associated with wetlands W-CBA-011 PEM and W-CBA-012 PEM. Upland sample point located on a steep hill on an upland saddle between S-CBA-013 and S-CBA-014 and upslope of the floodplain of perennial stream S-CBA-012.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):	**Wetland Hydrology Present?** Yes ○ No ◉

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

Remarks:
No hydrology observed.

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

Sampling Point: W-CBA-011/012 UPL

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size: 15' radius)				
1. *Corylus americana*	15	☑	100.0%	FACU
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	15	= Total Cover		
Herb Stratum (Plot size: 5' radius)				
1. *Glechoma hederacea*	15	☑	37.5%	FACU
2. *Rumex crispus*	10	☑	25.0%	FAC
3. *Solidago albopilosa*	5	☐	12.5%	UPL
4. *Phytolacca americana*	5	☐	12.5%	FACU
5. *Polystichum acrostichoides*	5	☐	12.5%	FACU
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	40	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	40	x 4 =	160
UPL species	5	x 5 =	25
Column Totals:	55 (A)		215 (B)

Prevalence Index = B/A = 3.909

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ○ No ◉

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

Poa sp 25%, moss 40%

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

Soil

Sampling Point: W-CBA-011/012 UPL

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type [1]	Loc²	Texture	Remarks
0-6	10YR 3/3	100					Silt Loam	40% gravel fill

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Wetland 35	Rater(s): C. ASHBAUGH/B.MILLER	Date: 11/14/2018

Metric 1. Wetland Area (size). W-CBA-012 PEM

0 (max 6 pts) | 0 (subtotal)

Select one size class and assign score.

0.021 acres

- [ ] >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)
- [x] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

9 (max 14 pts.) | 9 (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)
- [x] 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)
- [x] 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)

Metric 3. Hydrology.

20.0 (max 30 pts.) | 29 (subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

- [x] None or none apparent (12)
- [ ] Recovered (7)
- [ ] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

16 (max 20 pts.) | 45 (subtotal)

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

- [x] 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)
- [x] Fair (3)
- [ ] Poor to fair (2)
- [ ] Poor (1)

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

- [x] None or none apparent (9)
- [ ] Recovered (6)
- [ ] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

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

45 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland 35	Rater(s): C. ASHBAUGH/B.MILLER	Date: 11/14/2018

W-CBA-012 PEM

45 subtotal this page

0 (max 10 pts.) | 45 (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 Praires (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 (max 20pts.) | 50 (subtotal)

Metric 6. Plant communities, interspersion, 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)
- [x] 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)
- [x] Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- [1] Vegetated hummucks/tussucks
- [ ] Coarse woody debris >15cm (6in)
- [ ] 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 generallyw/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

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

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 35
Date: November 14, 2018
Description: PEM Category 2 Facing North

Wetland 35
Date: November 14, 2018
Description: PEM Category 2 Facing East

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 35
Date: November 14, 2018
Description: PEM Category 2 Facing South

Wetland 35
Date: November 14, 2018
Description: PEM Category 2 Facing West

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 35

Date:

November 14, 2018

Description:

PEM

Category 2

Soil Pit

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton-Gable **City/County:** Carroll **Sampling Date:** 14-Nov-18

Applicant/Owner: AEP **State:** OH **Sampling Point:** **W-CBA-013 PEM**

Investigator(s): C.Ashbaugh, B.Miller **Section, Township, Range:** **S** 4 **T** 13N - Lee **R** 5W

Landform (hillslope, terrace, etc.): Valley bottom **Local relief (concave, convex, none):** concave **Slope:** 4.0% / 2.3 °

Subregion (LRR or MLRA): MLRA 127 in LRR N **Lat.:** 40.516404 **Long.:** -80.985897 **Datum:** NAD83

Soil Map Unit Name: WmD; Westmoreland-Coshocton silt loams, 15 to 25 percent slopes **NWI classification:** PUBGh

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 ◉	No ○	
Hydric Soil Present?	Yes ◉	No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks:
PEM wetland located at base of hillside soybean field. Wetland boundary follows the edge of the hydrophytic vegetation.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☑ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches):	1	
Water Table Present?	Yes ◉	No ○	Depth (inches):	10	**Wetland Hydrology Present?** Yes ◉ No ○
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	0	

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

Remarks:
Primary source of hydrology is surface water collection.

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

Sampling Point: W-CBA-013 PEM

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 5' radius)				
1. *Typha angustifolia*	0	☐	0.0%	OBL
2. *Epilobium coloratum*	10	☑	33.3%	FACW
3. *Carex lurida*	15	☑	50.0%	OBL
4. *Juncus effusus*	5	☐	16.7%	FACW
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	30	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	15	x 1 =	15	
FACW species	15	x 2 =	30	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	30	(A)	45	(B)

Prevalence Index = B/A = 1.500

Hydrophytic Vegetation Indicators:

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

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

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

Soil

Sampling Point: W-CBA-013 PEM

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc[2]	Texture	Remarks
0-4	10YR	4/2	80	10YR	4/6	20	C	PL	Silt Loam	
4-6	10YR	3/1	100						Silty Clay Loam	
6-10	10YR	4/1	75	10YR	3/6	25	C	PL, M	Silty Clay Loam	
10-16	10YR	3/1	80	10YR	3/6	25	C	PL, M	Clay Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]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[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Upland 36, 37

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton-Gable **City/County:** Carroll **Sampling Date:** 14-Nov-18

Applicant/Owner: AEP **State:** OH **Sampling Point:** **W-CBA-013/014 UPL**

Investigator(s): C.Ashbaugh, B.Miller **Section, Township, Range:** **S** 4 **T** 13N - Lee **R** 5W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** none **Slope:** 8.0% / 4.6 °

Subregion (LRR or MLRA): MLRA 127 in LRR N **Lat.:** 40.516488 **Long.:** -80.985837 **Datum:** NAD83

Soil Map Unit Name: WmD; Westmoreland-Coshocton silt loams, 15 to 25 percent slopes **NWI classification:** N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
Upland sample point associated with wetlands W-CBA-013 PEM and W-CBA-014 PEM. Upland sample point located on hillside at edge of active soybean field.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):	**Wetland Hydrology Present?** Yes ○ No ◉

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

Remarks:
No hydrology observed.

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

Sampling Point: W-CBA-013/014 UPL

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 5' radius)				
1. *Setaria pumila ssp. pumila*	40	☑	40.0%	FAC
2. *Solidago altissima*	20	☑	20.0%	FACU
3. *Glechoma hederacea*	15	☐	15.0%	FACU
4. *Cirsium arvense*	15	☐	15.0%	FACU
5. *Daucus carota*	10	☐	10.0%	UPL
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	100	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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: 2 (B)

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

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	40	x 3 =	120
FACU species	50	x 4 =	200
UPL species	10	x 5 =	50
Column Totals:	100 (A)		370 (B)

Prevalence Index = B/A = 3.700

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ○ No ◉

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

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

Soil

Sampling Point: W-CBA-013/014 UPL

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc[2]	Texture	Remarks
0-10	10YR	4/3	100						Silt Loam	
10-18	10YR	4/4	100						Silt Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]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[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Wetland 36	Rater(s): C. ASHBAUGH/B.MILLER	Date: 11/14/2018

Metric 1. Wetland Area (size). W-CBA-013 PEM

0 (max 6 pts) | 0 (subtotal)

Select one size class and assign score.

0.089 acres

- [ ] >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)
- [x] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

3 (max 14 pts.) | 3 (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)
- [x] 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)
- [X] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [X] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

6.0 (max 30 pts.) | 9 (subtotal)

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

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

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [x] 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 one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [x] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [x] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [x] point source (nonstormwater)
- [x] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [x] Other: agriculture

Metric 4. Habitat Alteration and Development.

6 (max 20 pts.) | 15 (subtotal)

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

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [x] 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)
- [x] Poor (1)

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

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

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

15 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland 36	Rater(s): C. ASHBAUGH/B.MILLER	Date: 11/14/2018

W-CBA-013 PEM

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 Praires (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 | 13 — max 20pts. | subtotal

Metric 6. Plant communities, interspersion, 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)
- [x] Low (1)
- [ ] None (0)

6c. Coverage of invasive plants. Refer

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

- [x] 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 hummucks/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 generallyw/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

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

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 36
Date:
November 14, 2018
Description:
PEM
Category 1
Facing North

Wetland 36
Date:
November 14, 2018
Description:
PEM
Category 1
Facing East

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 36
Date: November 14, 2018
Description: PEM Category 1 Facing South

Wetland 36
Date: November 14, 2018
Description: PEM Category 1 Facing West

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 36
Date: November 14, 2018
Description: PEM Category 1 Soil Pit

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton-Gable **City/County:** Carroll **Sampling Date:** 14-Nov-18

Applicant/Owner: AEP **State:** OH **Sampling Point:** **W-CBA-014 PEM**

Investigator(s): C.Ashbaugh, B.Miller **Section, Township, Range:** **S** 4 **T** 13N - Lee **R** 5W

Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** concave **Slope:** 5.0% / 2.9 °

Subregion (LRR or MLRA): MLRA 127 in LRR N **Lat.:** 40.516274 **Long.:** -80.985637 **Datum:** NAD83

Soil Map Unit Name: WmD; Westmoreland-Coshocton silt loams, 15 to 25 percent slopes **NWI classification:** N/A

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

Are Vegetation ☑ **, Soil** ☑ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

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

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

Hydrophytic Vegetation Present?	Yes ◉	No ○	
Hydric Soil Present?	Yes ◉	No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks:
PEM wetland depression located at headwaters of intermittent stream S-CBA-014.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):	**Wetland Hydrology Present?** Yes ◉ No ○

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

Remarks:
Primary source of hydrology is surface water collection.

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

Sampling Point: W-CBA-014 PEM

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 5' radius)				
1. *Euthamia graminifolia*	45	☑	42.9%	FAC
2. *Setaria pumila*	20	☑	19.0%	FAC
3. *Epilobium coloratum*	15	☐	14.3%	FACW
4. *Rumex crispus*	15	☐	14.3%	FAC
5. *Daucus carota*	5	☐	4.8%	UPL
6. *Bromus inermis*	5	☐	4.8%	UPL
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	105	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	0	x 1 =	0	
FACW species	15	x 2 =	30	
FAC species	80	x 3 =	240	
FACU species	0	x 4 =	0	
UPL species	10	x 5 =	50	
Column Totals:	105	(A)	320	(B)

Prevalence Index = B/A = 3.048

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

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

Carex sp 20%

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

Soil

Sampling Point: W-CBA-014 PEM

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc²	Texture	Remarks
0-8	10YR	4/2	95	10YR	4/6	5	C	PL, M	Silt Loam	
8-16	10YR	4/1	82	10YR	4/6	20	C	PL, M	Silt Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Upland 36, 37

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton-Gable **City/County:** Carroll **Sampling Date:** 14-Nov-18

Applicant/Owner: AEP **State:** OH **Sampling Point:** **W-CBA-013/014 UPL**

Investigator(s): C.Ashbaugh, B.Miller **Section, Township, Range:** **S** 4 **T** 13N - Lee **R** 5W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** none **Slope:** 8.0% / 4.6 °

Subregion (LRR or MLRA): MLRA 127 in LRR N **Lat.:** 40.516488 **Long.:** -80.985837 **Datum:** NAD83

Soil Map Unit Name: WmD; Westmoreland-Coshocton silt loams, 15 to 25 percent slopes **NWI classification:** N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
Upland sample point associated with wetlands W-CBA-013 PEM and W-CBA-014 PEM. Upland sample point located on hillside at edge of active soybean field.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):	**Wetland Hydrology Present?** Yes ○ No ◉

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

Remarks:
No hydrology observed.

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

Sampling Point: W-CBA-013/014 UPL

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 5' radius)				
1. *Setaria pumila ssp. pumila*	40	☑	40.0%	FAC
2. *Solidago altissima*	20	☑	20.0%	FACU
3. *Glechoma hederacea*	15	☐	15.0%	FACU
4. *Cirsium arvense*	15	☐	15.0%	FACU
5. *Daucus carota*	10	☐	10.0%	UPL
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	100	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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: 2 (B)

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

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	40	x 3 =	120
FACU species	50	x 4 =	200
UPL species	10	x 5 =	50
Column Totals:	100 (A)		370 (B)

Prevalence Index = B/A = 3.700

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ○ No ◉

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

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

Soil

Sampling Point: W-CBA-013/014 UPL

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc[2]	Texture	Remarks
0-10	10YR	4/3	100						Silt Loam	
10-18	10YR	4/4	100						Silt Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]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[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Wetland 37	Rater(s): C. ASHBAUGH/B.MILLER	Date: 11/14/2018

Metric 1. Wetland Area (size). W-CBA-014 PEM

0 / 0 (max 6 pts / subtotal)

Select one size class and assign score.

0.003 acres

- [ ] >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)
- [x] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

1 / 1 (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)
- [x] 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)
- [x] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

6.0 / 7 (max 30 pts. / subtotal)

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

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

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [x] 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 one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [x] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [x] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [x] point source (nonstormwater)
- [x] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [x] Other: agriculture

Metric 4. Habitat Alteration and Development.

6 / 13 (max 20 pts. / subtotal)

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

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [x] 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)
- [x] Poor (1)

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

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

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

13 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland 37	Rater(s): C. ASHBAUGH/B.MILLER	Date: 11/14/2018

W-CBA-014 PEM

13 — subtotal this page

0 / 13 — 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 Praires (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 / 17 — max 20pts. / subtotal

Metric 6. Plant communities, interspersion, 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)
- [x] 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)
- [x] Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- [1] Vegetated hummucks/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 generallyw/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)**

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 37
Date:
November 14, 2018
Description:
PEM
Category 1
Facing North

Wetland 37
Date:
November 14, 2018
Description:
PEM
Category 1
Facing East

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 37 **Date:** November 14, 2018 **Description:** PEM Category 1 Facing South	

Wetland 37 **Date:** November 14, 2018 **Description:** PEM Category 1 Facing West	

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 37

Date:

November 14, 2018

Description:

PEM

Category 1

Soil Pit

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton-Gable **City/County:** Carroll **Sampling Date:** 14-Nov-18

Applicant/Owner: AEP **State:** OH **Sampling Point:** **W-CBA-015 PEM**

Investigator(s): C.Ashbaugh, B.Miller **Section, Township, Range:** **S** 4 **T** 13N - Lee **R** 5

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** concave **Slope:** 5.0% / 2.9 °

Subregion (LRR or MLRA): MLRA 127 in LRR N **Lat.:** 40.516085 **Long.:** -80.985093 **Datum:** NAD83

Soil Map Unit Name: WmD; Westmoreland-Coshocton silt loams, 15 to 25 percent slopes **NWI classification:** N/A

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

Are Vegetation ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ○ No ◉

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

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

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?**	Yes ◉ No ○
Hydric Soil Present?	Yes ◉ No ○		
Wetland Hydrology Present?	Yes ◉ No ○		

Remarks:
PEM wetland located in drainage swale on hillside soybean field below stormwater culvert outlet from upslope adjacent natural gas well pad. Wetland boundary follows the edge of hydrophytic vegetation.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☑ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☑ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):		
Water Table Present?	Yes ○	No ◉	Depth (inches):	14	
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	10	**Wetland Hydrology Present?** Yes ◉ No ○

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

Remarks:
Primary source of hydrology is surface water collection and sheetflow of stormwater outlet.

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

Sampling Point: W-CBA-015 PEM

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 5' radius)				
1. *Panicum dichotomiflorum*	10	☐	8.0%	FACW
2. *Poa palustris*	25	☑	20.0%	FACW
3. *Epilobium coloratum*	20	☐	16.0%	FACW
4. *Lamium purpureum*	15	☐	12.0%	UPL
5. *Setaria pumila*	15	☐	12.0%	FAC
6. *Echinochloa crus-galli*	40	☑	32.0%	FAC
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	125	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	0	x 1 =	0	
FACW species	55	x 2 =	110	
FAC species	55	x 3 =	165	
FACU species	0	x 4 =	0	
UPL species	15	x 5 =	75	
Column Totals:	125	(A)	350	(B)

Prevalence Index = B/A = 2.800

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

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

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

Soil

Sampling Point: W-CBA-015 PEM

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc[2]	Texture	Remarks
0-10	10YR	4/2	95	10YR	3/6	5	C	M	Silt Loam	
10-16	10YR	5/3	95	10YR	5/6	5	C	M	Clay Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]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[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Upland 38

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton-Gable **City/County:** Carroll **Sampling Date:** 14-Nov-18

Applicant/Owner: AEP **State:** OH **Sampling Point:** **W-CBA-015 UPL**

Investigator(s): C.Ashbaugh, B.Miller **Section, Township, Range:** **S** 4 **T** 13N - Lee **R** 5W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** rolling **Slope:** 8.0% / 4.6 °

Subregion (LRR or MLRA): MLRA 127 in LRR N **Lat.:** 40.516058 **Long.:** -80.985229 **Datum:** NAD83

Soil Map Unit Name: WmD; Westmoreland-Coshocton silt loams, 15 to 25 percent slopes **NWI classification:** N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes ◉	No ○	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
Upland sample point associated with wetland W-CBA-015. Upland sample point located in existings agricutlural soybean field.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):	**Wetland Hydrology Present?** Yes ○ No ◉

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

Remarks:
No hydrology observed.

Upland 38

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

Sampling Point: W-CBA-015 UPL

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 5' radius)				
1. *Setaria pumila*	65	☑	56.5%	FAC
2. *Cirsium arvense*	15	☐	13.0%	FACU
3. *Panicum dichotomiflorum*	25	☑	21.7%	FACW
4. *Rosa multiflora*	10	☐	8.7%	FACU
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	115	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	0	x 1 =	0	
FACW species	25	x 2 =	50	
FAC species	65	x 3 =	195	
FACU species	25	x 4 =	100	
UPL species	0	x 5 =	0	
Column Totals:	115	(A)	345	(B)

Prevalence Index = B/A = 3.000

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

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

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

Soil

Sampling Point: W-CBA-015 UPL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type [1]	Loc²	Texture	Remarks
0-16	10YR 4/3	100					silty clay	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Wetland 38	Rater(s): C. ASHBAUGH/B.MILLER	Date: 11/14/2018

Metric 1. Wetland Area (size). W-CBA-015 PEM

0 (max 6 pts) | 0 (subtotal)

Select one size class and assign score.

0.043 acres

- [ ] >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)
- [x] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

2 (max 14 pts.) | 2 (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)
- [x] 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)
- [x] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [x] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

6.0 (max 30 pts.) | 8 (subtotal)

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

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

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [x] 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 one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [x] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [x] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [x] point source (nonstormwater)
- [x] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [x] Other: agriculture

Metric 4. Habitat Alteration and Development.

3 (max 20 pts.) | 11 (subtotal)

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

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [ ] Recovering (2)
- [x] 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)
- [x] Poor (1)

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

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [ ] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

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

11 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland 38	Rater(s): C. ASHBAUGH/B.MILLER	Date: 11/14/2018

W-CBA-015 PEM

11 — subtotal this page

0 | 11 — 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 Praires (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 | 13 — max 20pts. | subtotal

Metric 6. Plant communities, interspersion, 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.

- [ ] Vegetated hummucks/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 generallyw/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

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

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 38
Date: November 14, 2018
Description: PEM Category 1 Facing North

Wetland 38
Date: November 14, 2018
Description: PEM Category 1 Facing East

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 38
Date: November 14, 2018
Description: PEM Category 1 Facing South

Wetland 38
Date: November 14, 2018
Description: PEM Category 1 Facing West

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 38
Date: November 14, 2018
Description: PEM Category 1 Soil Pit

Wetland 39a

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton-Gable **City/County:** Carroll **Sampling Date:** 14-Nov-18

Applicant/Owner: AEP **State:** OH **Sampling Point:** **W-CBA-016 PEM**

Investigator(s): C.Ashbaugh, B.Miller **Section, Township, Range:** **S** 6 **T** 15N - Lee **R** 4W

Landform (hillslope, terrace, etc.): Floodplain **Local relief (concave, convex, none):** concave **Slope:** 0.5% / 0.3 °

Subregion (LRR or MLRA): MLRA 127 in LRR N **Lat.:** 40.507356 **Long.:** -80.973044 **Datum:** NAD83

Soil Map Unit Name: Or; Orville silt loam, 0 to 3 percent slopes, occassionally flooded **NWI classification:** R5UBH

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 ◉	No ○	
Hydric Soil Present?	Yes ◉	No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks:
PEM portion of a PEM/PSS/PFO wetland complex located in the floodplain of perennial stream S-CBA-023.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☑ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):	**Wetland Hydrology Present?** Yes ◉ No ○

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

Remarks:
Primary source of hydrology is overland flow from adjacent perennial stream S-CBA-023.

Wetland 39a

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

Sampling Point: W-CBA-016 PEM

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 5' radius)				
1. *Phalaris arundinacea*	100	☑	69.0%	FACW
2. *Verbesina alternifolia*	25	☐	17.2%	FAC
3. *Urtica dioica*	15	☐	10.3%	FACU
4. *Rubus occidentalis*	5	☐	3.4%	UPL
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	145	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	0	x 1 =	0	
FACW species	100	x 2 =	200	
FAC species	25	x 3 =	75	
FACU species	15	x 4 =	60	
UPL species	5	x 5 =	25	
Column Totals:	145	(A)	360	(B)

Prevalence Index = B/A = 2.483

Hydrophytic Vegetation Indicators:

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

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

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

Soil

Sampling Point: W-CBA-016 PEM

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc[2]	Texture	Remarks
0-4	10YR	4/3	100						Silt Loam	
4-16	10YR	4/2	90	10YR	4/6	10	C	M	Silt Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]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[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Wetland 39b

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton-Gable **City/County:** Carroll **Sampling Date:** 14-Nov-18

Applicant/Owner: AEP **State:** OH **Sampling Point:** **W-CBA-016 PSS**

Investigator(s): C.Ashbaugh, B.Miller **Section, Township, Range:** **S** 6 **T** 15N - Lee **R** 4W

Landform (hillslope, terrace, etc.): Floodplain **Local relief (concave, convex, none):** concave **Slope:** 0.5% / 0.3 °

Subregion (LRR or MLRA): MLRA 127 in LRR N **Lat.:** 40.507441 **Long.:** -80.972858 **Datum:** NAD83

Soil Map Unit Name: Or; Orville silt loam, 0 to 3 percent slopes, occassionally flooded **NWI classification:** R5UBH

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 ◉	No ○	
Hydric Soil Present?	Yes ◉	No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks:
PSS portion of a PEM/PSS/PFO wetland complex located in the floodplain of perennial stream S-CBA-023.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☑ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):	**Wetland Hydrology Present?** Yes ◉ No ○

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

Remarks:
Primary source of hydrology is overland flow from adjacent perennial stream S-CBA-023.

Wetland 39b

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

Sampling Point: W-CBA-016 PSS

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size: 15' radius)				
1. *Alnus serrulata*	45	☑	69.2%	OBL
2. *Cornus alba*	20	☑	30.8%	FACW
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	65	= Total Cover		
Herb Stratum (Plot size: 5' radius)				
1. *Phalaris arundinacea*	30	☑	24.0%	FACW
2. *Verbesina alternifolia*	5	☐	4.0%	FAC
3. *Agrimonia microcarpa*	40	☑	32.0%	UPL
4. *Lysimachia nummularia*	50	☑	40.0%	FACW
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	125	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	45	x 1 =	45
FACW species	100	x 2 =	200
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	40	x 5 =	200
Column Totals:	190 (A)		460 (B)

Prevalence Index = B/A = 2.421

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

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

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

Soil

Sampling Point: W-CBA-016 PSS

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc[2]	Texture	Remarks
0-4	10YR	4/3	100						Silt Loam	
4-16	10YR	4/2	90	10YR	4/6	10	C	M	Silt Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]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[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Wetland 39c

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton-Gable **City/County:** Carroll **Sampling Date:** 14-Nov-18

Applicant/Owner: AEP **State:** OH **Sampling Point:** **W-CBA-016 PFO**

Investigator(s): C.Ashbaugh, B.Miller **Section, Township, Range:** **S** 6 **T** 15N - Lee **R** 4W

Landform (hillslope, terrace, etc.): Floodplain **Local relief (concave, convex, none):** concave **Slope:** 0.5% / 0.3 °

Subregion (LRR or MLRA): MLRA 127 in LRR N **Lat.:** 40.507249 **Long.:** -80.972496 **Datum:** NAD83

Soil Map Unit Name: Or; Orville silt loam, 0 to 3 percent slopes, occassionally flooded **NWI classification:** R5UBH

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 ◉	No ○	
Hydric Soil Present?	Yes ◉	No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks:
PFO portion of a PEM/PSS/PFO wetland complex located in the floodplain of perennial stream S-CBA-023.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☑ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):	**Wetland Hydrology Present?** Yes ◉ No ○

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

Remarks:
Primary source of hydrology is overland flow from adjacent perennial stream S-CBA-023.

Wetland 39c

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

Sampling Point: W-CBA-016 PFO

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30' radius)				
1. *Salix nigra*	60	☑	100.0%	OBL
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	60	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size: 15' radius)				
1. *Salix nigra*	10	☑	100.0%	OBL
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	10	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 5' radius)				
1. *Phalaris arundinacea*	30	☑	50.0%	FACW
2. *Verbesina alternifolia*	30	☑	50.0%	FAC
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	60	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70	
FACW species	30	x 2 =	60	
FAC species	30	x 3 =	90	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	130	(A)	220	(B)

Prevalence Index = B/A = 1.692

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

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

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

Soil

Sampling Point: W-CBA-016 PFO

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc[2]	Texture	Remarks
0-4	10YR	4/3	100						Silt Loam	
4-16	10YR	4/2	90	10YR	4/6	10	C	M	Silt Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]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[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Upland 39

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton-Gable **City/County:** Carroll **Sampling Date:** 14-Nov-18

Applicant/Owner: AEP **State:** OH **Sampling Point:** **W-CBA-016 UPL**

Investigator(s): C.Ashbaugh, B.Miller **Section, Township, Range:** **S** 6 **T** 15N - Lee **R** 4W

Landform (hillslope, terrace, etc.): Floodplain **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR or MLRA): MLRA 127 in LRR N **Lat.:** 40.507629 **Long.:** -80.973107 **Datum:** NAD83

Soil Map Unit Name: Or; Orville silt loam, 0 to 3 percent slopes, occassionally 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 ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
Upland sample point associated with wetland W-CBA-016. Upland sample point located on upland hump between wetland and hillslope below road.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):	**Wetland Hydrology Present?** Yes ○ No ◉

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

Remarks:
No hydrology observed.

Upland 39

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

Sampling Point: W-CBA-016 UPL

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30' radius)				
1. *Prunus serotina*	75	☑	88.2%	FACU
2. *Malus angustifolia*	10	☐	11.8%	UPL
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	85	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size: 15' radius)				
1. *Rosa multiflora*	5	☑	50.0%	FACU
2. *Lonicera morrowii*	5	☑	50.0%	FACU
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	10	= Total Cover		
Herb Stratum (Plot size: 5' radius)				
1. *Agrimonia microcarpa*	10	☑	50.0%	UPL
2. *Taraxacum officinale*	10	☑	50.0%	FACU
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	20	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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: 5 (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	95	x 4 =	380	
UPL species	20	x 5 =	100	
Column Totals:	115	(A)	480	(B)

Prevalence Index = B/A = 4.174

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ○ No ◉

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

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

Soil

Sampling Point: W-CBA-016 UPL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type [1]	Loc²	Texture	Remarks
0-12	10YR 4/4	100					Silt Loam	
12-16	10YR 5/4	100					Silt Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Wetland 39abc	Rater(s): C. ASHBAUGH/B.MILLER	Date: 11/14/2018

Metric 1. Wetland Area (size). W-CBA-016 PEM-PSS-PFO

2 | 2 (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)
- [x] 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)

0.29 acres

Metric 2. Upland buffers and surrounding land use.

10 | 12 (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)
- [x] 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.

- [X] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [X] 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)

Metric 3. Hydrology.

21.0 | 33 (max 30 pts. | subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

- [ ] None or none apparent (12)
- [x] Recovered (7)
- [ ] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

10 | 43 (max 20 pts. | subtotal)

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

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [x] Recovering (2)
- [ ] Recent or no recovery (1)

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

- [ ] Excellent (7)
- [ ] Very good (6)
- [x] 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)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

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

43 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland 39abc	Rater(s): C. ASHBAUGH/B.MILLER	Date: 11/14/2018

W-CBA-016 PEM-PSS-PFO

43 — subtotal this page

0 (max 10 pts.) | 43 (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 Praires (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)

8 (max 20pts.) | 51 (subtotal)

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [2] Shrub
- [2] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

6b. horizontal (plan view) Interspersion.

Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [x] 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)
- [x] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- [1] Vegetated hummucks/tussucks
- [1] Coarse woody debris >15cm (6in)
- [ ] 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 generallyw/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

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

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 39a
Date: November 14, 2018
Description: PEM Category 2 Facing North

Wetland 39a
Date: November 14, 2018
Description: PEM Category 2 Facing East

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 39a
Date: November 14, 2018
Description: PEM Category 2 Facing South

Wetland 39a
Date: November 14, 2018
Description: PEM Category 2 Facing West

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 39a
Date: November 14, 2018
Description: PEM Category 2 Soil Pit

Wetland 39b
Date: November 14, 2018
Description: PSS Category 2 Facing North

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 39b
Date: November 14, 2018
Description: PSS Category 2 Facing East

Wetland 39b
Date: November 14, 2018
Description: PSS Category 2 Facing South

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 39b
Date:
November 14, 2018
Description:
PSS
Category 2
Facing West

Wetland 39b
Date:
November 14, 2018
Description:
PSS
Category 2
Soil Pit

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 39c
Date: November 14, 2018
Description: PFO Category 2 Facing North

Wetland 39c
Date: November 14, 2018
Description: PFO Category 2 Facing East

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 39c
Date: November 14, 2018
Description: PFO Category 2 Facing South

Wetland 39c
Date: November 14, 2018
Description: PFO Category 2 Facing West

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 39c
Date: November 14, 2018
Description: PFO Category 2 Soil Pit

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton-Gable 138 kV Transmission Line **City/County:** Carroll County **Sampling Date:** 12-Feb-19

Applicant/Owner: AEP **State:** OH **Sampling Point:** **w-aeh-021219-02a**

Investigator(s): JTT, AEH **Section, Township, Range:** **S** 33 **T** 12N **R** 4W

Landform (hillslope, terrace, etc.): Toeslope **Local relief (concave, convex, none):** concave **Slope:** 0.0% / 0.0 °

Subregion (LRR or MLRA): LRR N **Lat.:** 40.507035 **Long.:** -80.972188 **Datum:**

Soil Map Unit Name: Or **NWI classification:** R5UBH

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 ◉ No ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:

PEM at toe of slope and within floodplain of stream qh-cba-20181114-23 (Elkhorn Creek). Stream hh-aeh-021219-02 flows through the wetland and into big QH stream.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 1

Water Table Present? Yes ◉ No ○ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): 0

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

Hydrology sourced from precipitation and adjacent streams

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

Sampling Point: w-aeh-021219-02a

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.		☐	0.0%	
2.		☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.		☐	0.0%	
2.		☐	0.0%	
3.		☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size:)				
1. Phalaris arundinacea	50	☑	58.8%	FACW
2. Poa palustris	25	☑	29.4%	FACW
3. Lysimachia nummularia	5	☐	5.9%	FACW
4. Vitis riparia	5	☐	5.9%	FACW
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	85	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	0	x 1 =	0	
FACW species	85	x 2 =	170	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	85	(A)	170	(B)

Prevalence Index = B/A = 2.000

Hydrophytic Vegetation Indicators:

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

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

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

Soil

Sampling Point: w-aeh-021219-02a

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type [1]	Loc²	Texture	Remarks
0-16	10YR 5/2	95	10YR 4/6	5	C	M	Silt Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Wetland 40b

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrolton Gable **City/County:** Carroll County **Sampling Date:** 12-Feb-19

Applicant/Owner: AEP **State:** OH **Sampling Point:** **w-aeh-20190212-02b**

Investigator(s): AEH, JTT **Section, Township, Range:** **S** 33 **T** 12N **R** 4W

Landform (hillslope, terrace, etc.): Floodplain **Local relief (concave, convex, none):** concave **Slope:** 0.0% / 0.0 °

Subregion (LRR or MLRA): LRR N **Lat.:** 40.50714331 **Long.:** -80.97215628 **Datum:** NAD 83

Soil Map Unit Name: Orrville silt loam, 0 to 3 percent slopes (Or) **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 ◉ No ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☑ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 2

Water Table Present? Yes ◉ No ○ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): 0

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

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

Sampling Point: w-aeh-20190212-02b

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
1. Carya laciniosa	45	☑	100.0%	FAC
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	45	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1. Carya laciniosa	20	☑	80.0%	FAC
2. Rubus allegheniensis	5	☑	20.0%	FACU
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	25	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size:)				
1. Poa palustris	30	☑	47.6%	FACW
2. Lysimachia nummularia	15	☑	23.8%	FACW
3. Verbena urticifolia	5	☐	7.9%	FAC
4. Vitis riparia	4	☐	6.3%	FACW
5. Onoclea sensibilis	4	☐	6.3%	FACW
6. Symplocarpus foetidus	3	☐	4.8%	OBL
7. Plantago lanceolata	2	☐	3.2%	UPL
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	63	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	3	x 1 =	3
FACW species	53	x 2 =	106
FAC species	70	x 3 =	210
FACU species	5	x 4 =	20
UPL species	2	x 5 =	10
Column Totals:	133 (A)		349 (B)

Prevalence Index = B/A = 2.624

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

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

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

Soil

Sampling Point: w-aeh-20190212-02b

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc²	Texture	Remarks
0-18	10YR 4/2	97	10YR 6/8	3	C	PL	Silty Clay	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Upland 40

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrolton Gable **City/County:** Carroll County **Sampling Date:** 12-Feb-19

Applicant/Owner: AEP **State:** OH **Sampling Point:** upl-aeh-20190212-02

Investigator(s): AEH, JTT **Section, Township, Range:** S 33 T 12N R 4W

Landform (hillslope, terrace, etc.): Floodplain **Local relief (concave, convex, none):** none **Slope:** 0.0% / 0.0 °

Subregion (LRR or MLRA): LRR N **Lat.:** 40.506885791 **Long.:** -80.9723632433 **Datum:** NAD 83

Soil Map Unit Name: Orrville silt loam, 0 to 3 percnet slopes, occassionally flooded (Or) **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 ◉ No ○

Hydric Soil Present? Yes ○ No ◉

Wetland Hydrology Present? Yes ○ No ◉

Is the Sampled Area within a Wetland? Yes ○ No ◉

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ◉ No ○ Depth (inches): 7

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): 6

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

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

Sampling Point: upl-aeh-20190212-02

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
1. Carya laciniosa	60	☑	80.0%	FAC
2. Acer rubrum	15	☑	20.0%	FAC
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	75	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1. Carya laciniosa	15	☑	100.0%	FAC
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	15	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size:)				
1. Polystichum acrostichoides	10	☑	50.0%	FACU
2. Carya laciniosa	5	☑	25.0%	FAC
3. Plantago lanceolata	3	☐	15.0%	UPL
4. Vitis riparia	1	☐	5.0%	FACW
5. Carex vulpinoidea	1	☐	5.0%	OBL
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	20	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	1	x 1 =	1	
FACW species	1	x 2 =	2	
FAC species	95	x 3 =	285	
FACU species	10	x 4 =	40	
UPL species	3	x 5 =	15	
Column Totals:	110	(A)	343	(B)

Prevalence Index = B/A = 3.118

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

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

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

Soil

Sampling Point: upl-aeh-20190212-02

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type [1]	Redox Features Loc[2]	Texture	Remarks
0-7	10YR 4/2	100					Silty Clay	
7-18	10YR 6/4	100					Silty Clay	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]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[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Wetland 40ab

Site: AEP Carrollton-Gable	Rater(s): JTT, AEH	Date: 2/12/2019

Field Id: **w-aeh-021219-02ab**

Metric 1. Wetland Area (size).

1 (subtotal) / 1 (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)
- [x] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

0.09 acres

Metric 2. Upland buffers and surrounding land use.

13 (subtotal) / 14 (max 14 pts.)

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

- [x] 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.

- [x] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [x] 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)

Metric 3. Hydrology.

14.5 (subtotal) / 28.5 (max 30 pts.)

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

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [x] Precipitation (1)
- [x] 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)
- [x] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

- [ ] None or none apparent (12)
- [x] Recovered (7)
- [ ] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

11 (subtotal) / 39.5 (max 20 pts.)

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

- [ ] None or none apparent (4)
- [x] 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)
- [x] Poor to fair (2)
- [ ] Poor (1)

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

- [ ] None or none apparent (9)
- [x] Recovered (6)
- [ ] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

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

39.5 subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

Wetland 40ab

Site: AEP Carrollton-Gable	Rater(s): JTT, AEH	Date: 2/12/2019

Field Id:
w-aeh-021219-02ab

39.5 subtotal this page

0 max 10 pts. | **39.5** 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 Praires (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 max 20pts. | **45.5** subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [2] Emergent
- [ ] Shrub
- [1] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

6b. horizontal (plan view) Interspersion.

Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [x] 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)
- [x] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- [ ] Vegetated hummucks/tussucks
- [1] Coarse woody debris >15cm (6in)
- [1] 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 generallyw/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

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

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 40a
Date: February 12, 2019
Description: PEM Category 2 Facing North

Wetland 40a
Date: February 12, 2019
Description: PEM Category 2 Facing East

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 40a
Date: February 12, 2019
Description: PEM Category 2 Facing South

Wetland 40a
Date: February 12, 2019
Description: PEM Category 2 Facing West

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 40a
Date:
February 12, 2019
Description:
PEM
Category 2
Soil Pit

Wetland 40b
Date:
February 12, 2019
Description:
PFO
Category 2
Facing North

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 40b
Date: February 12, 2019
Description: PFO Category 2 Facing East

Wetland 40b
Date: February 12, 2019
Description: PFO Category 2 Facing South

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 40b
Date: February 12, 2019
Description: PFO Category 2 Facing West

Wetland 40b
Date: February 12, 2019
Description: PFO Category 2 Soil Pit

Wetland 41

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton-Gable 138 kV Transmission Line **City/County:** Carroll County **Sampling Date:** 12-Feb-19

Applicant/Owner: AEP **State:** OH **Sampling Point:** **w-aeh-021219-01**

Investigator(s): JTT, AEH **Section, Township, Range:** **S** 33 **T** 12N **R** 4W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** concave **Slope:** 0.0% / 0.0 °

Subregion (LRR or MLRA): LRR N **Lat.:** 40.504046 **Long.:** -80.968657 **Datum:**

Soil Map Unit Name: Wmd **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 ◉ No ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:

PEM on hillside under the transmission line and withiin its ROW

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 1

Water Table Present? Yes ◉ No ○ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): 0

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

Hydrology from hillside seep/drainage and precipitation

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

Sampling Point: w-aeh-021219-01

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size:)				
1. Carex vulpinoidea	85	☑	85.0%	OBL
2. Poa palustris	10	☐	10.0%	FACW
3. Eupatorium perfoliatum	5	☐	5.0%	FACW
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	100	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	85	x 1 =	85
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		115 (B)

Prevalence Index = B/A = 1.150

Hydrophytic Vegetation Indicators:

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

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

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

Soil

Sampling Point: w-aeh-021219-01

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc²	Texture	Remarks
0-16	10YR	5/2	85	10YR	6/8	15	C	M	Silty Clay Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Upland 41

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrolton Gable **City/County:** Carroll County **Sampling Date:** 12-Feb-19

Applicant/Owner: AEP **State:** OH **Sampling Point:** upl-aeh-20190212-01

Investigator(s): AEH, JTT **Section, Township, Range:** S 33 T 12N R 4W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** rolling **Slope:** 0.0% / 0.0 °

Subregion (LRR or MLRA): LRR N **Lat.:** 40.5041570536 **Long.:** -80.9687258245 **Datum:** NAD 83

Soil Map Unit Name: Westmoreland-Coshocton silt loams, 15 to 25 percent slopes (WmD) **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 ○ No ◉

Hydric Soil Present? Yes ○ No ◉

Wetland Hydrology Present? Yes ○ No ◉

Is the Sampled Area within a Wetland? Yes ○ No ◉

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ◉ No ○ Depth (inches): 7

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): 0

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

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

Sampling Point: upl-aeh-20190212-01

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size:)				
1. Bromus inermis	40	☑	47.1%	UPL
2. Onoclea sensibilis	15	☑	17.6%	FACW
3. Solidago canadensis	15	☑	17.6%	FACU
4. Carex vulpinoidea	5	☐	5.9%	OBL
5. Juncus effusus	5	☐	5.9%	FACW
6. Poa palustris	5	☐	5.9%	FACW
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	85	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	5	x 1 =	5	
FACW species	25	x 2 =	50	
FAC species	0	x 3 =	0	
FACU species	15	x 4 =	60	
UPL species	40	x 5 =	200	
Column Totals:	85	(A)	315	(B)

Prevalence Index = B/A = 3.706

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ○ No ◉

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

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

Soil

Sampling Point: upl-aeh-20190212-01

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type [1]	Loc²	Texture	Remarks
0-18	10YR 4/2	100					Silty Clay	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Wetland 41

Site: AEP Carrollton-Gable	Rater(s): JTT, AEH	Date: 2/12/2019

Field Id:
w-aeh-021219-01

Metric 1. Wetland Area (size).

0 | 0 (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)
- [x] <0.1 acres (0.04ha) (0 pts)

0.03 acres

Metric 2. Upland buffers and surrounding land use.

10 | 10 (max 14 pts. | subtotal)

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

- [x] 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)
- [x] LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- [ ] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [x] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

7.0 | 17.0 (max 30 pts. | subtotal)

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

- [ ] High pH groundwater (5)
- [x] Other groundwater (3)
- [x] 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 one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [ ] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

6 | 23 (max 20 pts. | subtotal)

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

- [ ] None or none apparent (4)
- [x] 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)
- [x] Poor (1)

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

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [x] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

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

23 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland 41

Site: AEP Carrollton-Gable	Rater(s): JTT, AEH	Date: 2/12/2019

Field Id:
w-aeh-021219-01

	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 Praires (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	**24**
max 20pts.	subtotal

Metric 6. Plant communities, interspersion, 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)
- [x] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- [ ] Vegetated hummucks/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 generallyw/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	**GRAND TOTAL(max 100 pts)**

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 41
Date:
February 12, 2019
Description:
PEM
Category 1
Facing North

Wetland 41
Date:
February 12, 2019
Description:
PEM
Category 1
Facing East

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 41
Date: February 12, 2019
Description: PEM Category 1 Facing South

Wetland 41
Date: February 12, 2019
Description: PEM Category 1 Facing West

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 41

Date:

February 12, 2019

Description:

PEM

Category 1

Soil Pit

Wetland 42

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton-Gable 138 kV Transmission Line **City/County:** Carroll County **Sampling Date:** 11-Feb-19

Applicant/Owner: AEP **State:** **Sampling Point:** **w-aeh-021119-03**

Investigator(s): JTT, AEH **Section, Township, Range:** **S** 26 **T** 12N **R** 4W

Landform (hillslope, terrace, etc.): Floodplain **Local relief (concave, convex, none):** concave **Slope:** 0.0% / 0.0 °

Subregion (LRR or MLRA): LRR N **Lat.:** 40.497963 **Long.:** -80.959620 **Datum:**

Soil Map Unit Name: BkE **NWI classification:** R4SBC

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 ◉	No ○	
Hydric Soil Present?	Yes ◉	No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks:

PEM wetland in floodpain of stream

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches): 1	
Water Table Present?	Yes ◉	No ○	Depth (inches): 5	**Wetland Hydrology Present?** Yes ◉ No ○
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 0	

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

Remarks:

hydrology from precipitation and stream

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

Sampling Point: w-aeh-021119-03

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size:)				
1. Typha angustifolia	15	☑	31.9%	OBL
2. Phalaris arundinacea	10	☑	21.3%	FACW
3. Poa compressa	15	☑	31.9%	FACU
4. Onoclea sensibilis	5	☐	10.6%	FACW
5. Symplocarpus foetidus	2	☐	4.3%	OBL
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	47	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	17	x 1 =	17
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	47 (A)		107 (B)

Prevalence Index = B/A = 2.277

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

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

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

Soil

Sampling Point: w-aeh-021119-03

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type [1]	Loc²	Texture	Remarks
0-16	10YR 4/1	70	10YR 4/6	30	C	M	Silty Clay	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

Upland 42

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton Gable **City/County:** Carroll County **Sampling Date:** 11-Feb-19

Applicant/Owner: AEP **State:** OH **Sampling Point:** **upl-aeh-20190211-03**

Investigator(s): AEH, JTT **Section, Township, Range:** **S** 26 **T** 12N **R** 4W

Landform (hillslope, terrace, etc.): Floodplain **Local relief (concave, convex, none):** none **Slope:** 0.0% / 0.0 °

Subregion (LRR or MLRA): LRR N **Lat.:** 40.49775463 **Long.:** -80.95979244 **Datum:** NAD 83

Soil Map Unit Name: Berks channery silt loam, 25 to 35 percent slopes (BkE) **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 ◉	No ○	
Hydric Soil Present?	Yes ◉	No ○	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

Upland 42

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

Sampling Point: upl-aeh-20190211-03

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1. Acer rubrum	15	☑	42.9%	FAC
2. Quercus macrocarpa	15	☑	42.9%	FAC
3. Populus deltoides	5	☐	14.3%	FAC
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	35	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1. Rubus allegheniensis	15	☑	75.0%	FACU
2. Acer rubrum	5	☑	25.0%	FAC
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	20	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size:)				
1. Solidago canadensis	10	☑	50.0%	FACU
2. Phalaris arundinacea	10	☑	50.0%	FACW
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	20	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	40	x 3 =	120
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	75 (A)		240 (B)

Prevalence Index = B/A = 3.200

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

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

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

Soil

Sampling Point: upl-aeh-20190211-03

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type [1]	Loc²	Texture	Remarks
0-18	10YR 4/1	95	10YR 6/8	5	C	PL	Silty Clay	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

Wetland 42

Site: AEP Carrollton-Gable	Rater(s): JTT, AEH	Date: 2/11/2019

Field Id: **w-aeh-021119-03**

Metric 1. Wetland Area (size).

1 (max 6 pts) | 1 (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)
x	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
	<0.1 acres (0.04ha) (0 pts)

0.17 acres

Metric 2. Upland buffers and surrounding land use.

12 (max 14 pts.) | 13 (subtotal)

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

x	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)
x	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)

Metric 3. Hydrology.

12.5 (max 30 pts.) | 25.5 (subtotal)

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

	High pH groundwater (5)
x	Other groundwater (3)
x	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)
x	Part of riparian or upland corridor (1)

3c. Maximum water depth. Select one.

	>0.7 (27.6in) (3)
	0.4 to 0.7m (15.7 to 27.6in) (2)
x	<0.4m (<15.7in) (1)

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

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

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

	None or none apparent (12)
x	Recovered (7)
x	Recovering (3)
	Recent or no recovery (1)

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

6.5 (max 20 pts.) | 32 (subtotal)

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

	None or none apparent (4)
x	Recovered (3)
x	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)
x	Poor (1)

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

	None or none apparent (9)
	Recovered (6)
x	Recovering (3)
	Recent or no recovery (1)

Check all disturbances observed

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

32 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland 42

Site: AEP Carrollton-Gable	Rater(s): JTT, AEH	Date: 2/11/2019

Field Id:
w-aeh-021119-03

	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 Praires (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	**35**
max 20pts.	subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

	Aquatic bed
2	Emergent
	Shrub
	Forest
	Mudflats
	Open water
	Other_____

6b. horizontal (plan view) Interspersion.

Select only one.

	High (5)
	Moderately high(4)
	Moderate (3)
	Moderately low (2)
	Low (1)
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)
x	Nearly absent <5% cover (0)
	Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

	Vegetated hummucks/tussucks
	Coarse woody debris >15cm (6in)
	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 generallyw/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

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

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 42 **Date:** February 11, 2019 **Description:** PEM Modified Category 2 Facing North	

Wetland 42 **Date:** February 11, 2019 **Description:** PEM Modified Category 2 Facing East	

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 42 **Date:** February 11, 2019 **Description:** PEM Modified Category 2 Facing South	

Wetland 42 **Date:** February 11, 2019 **Description:** PEM Modified Category 2 Facing West	

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 42

Date:

February 11, 2019

Description:

PEM

Modified Category 2

Soil Pit

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton Gable **City/County:** Carroll County **Sampling Date:** 11-Feb-19

Applicant/Owner: AEP **State:** OH **Sampling Point:** **w-aeh-20190211-02**

Investigator(s): AEH, JTT **Section, Township, Range:** **S** 26 **T** 12N **R** 4W

Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** rolling **Slope:** 0.0% / 0.0 °

Subregion (LRR or MLRA): LRR N **Lat.:** 40.49203771 **Long.:** -80.95143998 **Datum:** NAD 83

Soil Map Unit Name: Rigley sandy loam, 25 to 40 percent slopes (RgE) **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 ◉	No ○	
Hydric Soil Present?	Yes ◉	No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches): 0.5	
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 0	**Wetland Hydrology Present?** Yes ◉ No ○

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

Remarks:

Standing water was within the wetland near the pit.

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

Sampling Point: w-aeh-20190211-02

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size:)				
1. Elymus riparius	70	☑	73.7%	FACW
2. Phalaris arundinacea	20	☑	21.1%	FACW
3. Juncus effusus	5	☐	5.3%	FACW
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	95	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	0	x 1 =	0
FACW species	95	x 2 =	190
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		190 (B)

Prevalence Index = B/A = 2.000

Hydrophytic Vegetation Indicators:

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

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

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

Soil

Sampling Point: w-aeh-20190211-02

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc[2]	Texture	Remarks
0-5	5GY	5/1	100						Silty Clay	
5-18	5GY	5/1	97	10YR	6/8	3	C	PL	Silty Clay	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]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[3]:

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

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

Upland 43, 44

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton Gable **City/County:** Carroll **Sampling Date:** 11-Feb-19

Applicant/Owner: AEP **State:** OH **Sampling Point:** upl-aeh-20190211-01/02

Investigator(s): AEH, JTT **Section, Township, Range:** S 26 T 12N R 4W

Landform (hillslope, terrace, etc.): Mound **Local relief (concave, convex, none):** rolling **Slope:** 30.0% / 0.0 °

Subregion (LRR or MLRA): LRR N **Lat.:** 40.4918520 **Long.:** -80.9512253030 **Datum:** NAD 83

Soil Map Unit Name: Rigley sandy loam, 25 to 40 percent slopes (RgE) **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 ○ No ◉	**Is the Sampled Area within a Wetland?**	Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉		
Wetland Hydrology Present?	Yes ○ No ◉		

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

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

Sampling Point: upl-aeh-20190211-01/02

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1. Rubus allegheniensis	5	☑	100.0%	FACU
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	5	= Total Cover		
Herb Stratum (Plot size:)				
1. Phalaris arundinacea	70	☑	82.4%	FACW
2. Rubus allegheniensis	15	☐	17.6%	FACU
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	85	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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: 2 (B)

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

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	70	x 2 =	140
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	90 (A)		220 (B)

Prevalence Index = B/A = 2.444

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ○ No ◉

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

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

Soil

Sampling Point: upl-aeh-20190211-01/02

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type [1]	Loc²	Texture	Remarks
0-18	10YR 4/2	100					Silty Clay	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Wetland 43

Site: AEP Carrollton-Gable	Rater(s): JTT, AEH	Date: 2/11/2019

Field Id: **w-aeh-021119-02**

Metric 1. Wetland Area (size).

0 (max 6 pts) | 0 (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)
- [x] <0.1 acres (0.04ha) (0 pts)

0.01 acres

Metric 2. Upland buffers and surrounding land use.

4 (max 14 pts.) | 4 (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)
- [x] 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)
- [x] LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- [ ] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [x] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

5.0 (max 30 pts.) | 9.0 (subtotal)

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

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [x] 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 one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [x] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

3.5 (max 20 pts.) | 12.5 (subtotal)

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

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [x] Recovering (2)
- [x] 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)
- [x] Poor (1)

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

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [ ] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

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

12.5 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland 43

Site: AEP Carrollton-Gable	Rater(s): JTT, AEH	Date: 2/11/2019

Field Id:
w-aeh-021119-02

12.5 subtotal this page

0 max 10 pts. | **12.5** 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 Praires (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 max 20pts. | **13.5** subtotal

Metric 6. Plant communities, interspersion, 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)
- [x] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- [ ] Vegetated hummucks/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 generallyw/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

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

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 43
Date:
February 11, 2019
Description:
PEM
Category 1
Facing North

Wetland 43
Date:
February 11, 2019
Description:
PEM
Category 1
Facing East

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 43
Date: February 11, 2019
Description: PEM Category 1 Facing South

Wetland 43
Date: February 11, 2019
Description: PEM Category 1 Facing West

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 43

Date:

February 11, 2019

Description:

PEM

Category 1

Soil Pit

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton-Gable 138 kV Transmission Line **City/County:** Carroll County **Sampling Date:** 11-Feb-19

Applicant/Owner: AEP **State:** OH **Sampling Point:** **w-aeh-021119-01**

Investigator(s): JTT, AEH **Section, Township, Range:** **S** 26 **T** 12N **R** 4W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** concave **Slope:** 0.0% / 0.0 °

Subregion (LRR or MLRA): LRR N **Lat.:** 40.491799 **Long.:** -80.951011 **Datum:**

Soil Map Unit Name: RgE **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 ◉ No ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:

PEM on hillside underneath transmission line. Wetland appears to be sourced by precipitation and a subsurface seep. Water flows downhill towards stream

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 1

Water Table Present? Yes ◉ No ○ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): 0

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

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

Sampling Point: w-aeh-021119-01

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.		☐	0.0%	
2.		☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.		☐	0.0%	
2.		☐	0.0%	
3.		☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size:)				
1. Phalaris arundinacea	85	☑	94.4%	FACW
2. Juncus effusus	5	☐	5.6%	FACW
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	90	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	0	x 1 =	0	
FACW species	90	x 2 =	180	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	90 (A)		180	(B)

Prevalence Index = B/A = 2.000

Hydrophytic Vegetation Indicators:

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

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

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

Soil

Sampling Point: w-aeh-021119-01

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc²	Texture	Remarks
0-16	10YR	2/1	98	10YR	5/8	20	C	M	Silt Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Upland 43, 44

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton Gable **City/County:** Carroll **Sampling Date:** 11-Feb-19

Applicant/Owner: AEP **State:** OH **Sampling Point:** upl-aeh-20190211-01/02

Investigator(s): AEH, JTT **Section, Township, Range:** S 26 T 12N R 4W

Landform (hillslope, terrace, etc.): Mound **Local relief (concave, convex, none):** rolling **Slope:** 30.0% / 0.0 °

Subregion (LRR or MLRA): LRR N **Lat.:** 40.4918520 **Long.:** -80.9512253030 **Datum:** NAD 83

Soil Map Unit Name: Rigley sandy loam, 25 to 40 percent slopes (RgE) **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 ○ No ◉	**Is the Sampled Area within a Wetland?**	Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉		
Wetland Hydrology Present?	Yes ○ No ◉		

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

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

Sampling Point: upl-aeh-20190211-01/02

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1. Rubus allegheniensis	5	☑	100.0%	FACU
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	5	= Total Cover		
Herb Stratum (Plot size:)				
1. Phalaris arundinacea	70	☑	82.4%	FACW
2. Rubus allegheniensis	15	☐	17.6%	FACU
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	85	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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: 2 (B)

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

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	70	x 2 =	140
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	90 (A)		220 (B)

Prevalence Index = B/A = 2.444

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ○ No ◉

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

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

Soil

Sampling Point: upl-aeh-20190211-01/02

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type [1]	Loc²	Texture	Remarks
0-18	10YR 4/2	100					Silty Clay	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Wetland 44

Site: AEP Carrollton-Gable	Rater(s): JTT, AEH	Date: 2/11/2019

Field Id:
w-aeh-021119-01

Metric 1. Wetland Area (size).

0 | 0 (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)
- [x] <0.1 acres (0.04ha) (0 pts)

0.03 acres

Metric 2. Upland buffers and surrounding land use.

4 | 4 (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)
- [x] 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)
- [x] LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- [ ] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [x] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

4.0 | 8.0 (max 30 pts. | subtotal)

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

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [x] 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 one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [ ] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

3.5 | 11.5 (max 20 pts. | subtotal)

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

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [x] Recovering (2)
- [x] 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)
- [x] Poor (1)

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

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [ ] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

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

11.5
subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

Wetland 44

Site: AEP Carrollton-Gable	Rater(s): JTT, AEH	Date: 2/11/2019

Field Id:
w-aeh-021119-01

11.5 subtotal this page

0 **11.5** **Metric 5. Special Wetlands.**

max 10 pts. subtotal

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 Praires (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 **12.5** **Metric 6. Plant communities, interspersion, microtopography.**

max 20pts. subtotal

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)
- [x] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- [ ] Vegetated hummucks/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 generallyw/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

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

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 44 **Date:** February 11, 2019 **Description:** PEM Category 1 Facing North	

Wetland 44 **Date:** February 11, 2019 **Description:** PEM Category 1 Facing East	

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 44
Date:
February 11, 2019
Description:
PEM
Category 1
Facing South

Wetland 44
Date:
February 11, 2019
Description:
PEM
Category 1
Facing West

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 44

Date:

February 11, 2019

Description:

PEM

Category 1

Soil Pit

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton_Gable **City/County:** Carroll **Sampling Date:** 12-Feb-19

Applicant/Owner: AEP **State:** OH **Sampling Point:** **W-CMS-01**

Investigator(s): CMS, RM **Section, Township, Range:** **S** 20 **T** 12N **R** 4W

Landform (hillslope, terrace, etc.): hillslope **Local relief (concave, convex, none):** concave **Slope:** 20.0% / 11.3 °

Subregion (LRR or MLRA): N 124 **Lat.:** 40.483140 **Long.:** -80.941861 **Datum:** NAD83

Soil Map Unit Name: GuB - Guernsey silty clay loam, 3 to 8 percent slopes **NWI classification:** NA

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

Are Vegetation ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ○ No ◉

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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:

PEM wetland within active agricultural field and maintained transmission line ROW. Wetland located at toe of slope, evidence of slumping and groundwater discharge.Snow melt and heavy rain contributed to hydrology indicators.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ◉ No ○ Depth (inches): 6

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): 0

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

Precipitation, ground water discharge and snow melt contributed to hydrology evident at time of sampling.

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

Sampling Point: W-CMS-01

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 5')				
1. Phalaris arundinacea	75	☑	75.0%	FACW
2. Juncus effusus	10	☐	10.0%	FACW
3. Dichanthelium clandestinum	5	☐	5.0%	FAC
4. Apocynum cannabinum	5	☐	5.0%	FACU
5. Carex vulpinoidea	5	☐	5.0%	OBL
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	100	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	5	x 1 =	5	
FACW species	85	x 2 =	170	
FAC species	5	x 3 =	15	
FACU species	5	x 4 =	20	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	210	(B)

Prevalence Index = B/A = 2.100

Hydrophytic Vegetation Indicators:

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

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

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

Soil

Sampling Point: W-CMS-01

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type [1]	Loc²	Texture	Remarks
0-18	5YR 5/2	80	10YR 5/6	20	C	M	Clay Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Upland 45

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton_Gable **City/County:** Carroll **Sampling Date:** 12-Feb-19

Applicant/Owner: AEP **State:** OH **Sampling Point:** **UPL-W-CMS-01**

Investigator(s): CMS, RM **Section, Township, Range:** **S** 20 **T** 12N **R** 4W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 2.0% / 1.1 °

Subregion (LRR or MLRA): N 124 **Lat.:** 40.483284 **Long.:** -80.941742 **Datum:** NAD83

Soil Map Unit Name: GuB - Guernsey silty clay loam, 3 to 8 percent slopes **NWI classification:** NA

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

Are Vegetation ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ○ No ◉

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 ◉

Hydric Soil Present? Yes ○ No ◉

Wetland Hydrology Present? Yes ○ No ◉

Is the Sampled Area within a Wetland? Yes ○ No ◉

Remarks:

active agricultural field and maintained transmission line ROW.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

Upland 45

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

Sampling Point: UPL-W-CMS-01

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 5')				
1. Phalaris arundinacea	10	☑	33.3%	FACW
2. Taraxacum officinale	10	☑	33.3%	FACU
3. Plantago lanceolata	10	☑	33.3%	UPL
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	30	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	0	x 1 =	0	
FACW species	10	x 2 =	20	
FAC species	0	x 3 =	0	
FACU species	10	x 4 =	40	
UPL species	10	x 5 =	50	
Column Totals:	30	(A)	110	(B)

Prevalence Index = B/A = 3.667

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ○ No ◉

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

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

Upland 45

Soil

Sampling Point: UPL-W-CMS-01

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc²	Texture	Remarks
0-10	10YR	6/3	80	10YR	7/4	20	C	M	Clay Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: rock

Depth (inches): 10

Hydric Soil Present? Yes ○ No ◉

Remarks:

Wetland 45	Rater(s): C.STALLONE, R. MASSA	Date: 2/12/2019

Metric 1. Wetland Area (size). W-CMS-001 PEM

1 (max 6 pts) | 1 (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)
x	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
	<0.1 acres (0.04ha) (0 pts)

0.13 acres

Metric 2. Upland buffers and surrounding land use.

3 (max 14 pts.) | 4 (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)
x	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)
X	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

8.0 (max 30 pts.) | 12 (subtotal)

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

	High pH groundwater (5)
x	Other groundwater (3)
x	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 one.

	>0.7 (27.6in) (3)
	0.4 to 0.7m (15.7 to 27.6in) (2)
x	<0.4m (<15.7in) (1)

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

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

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

	None or none apparent (12)
	Recovered (7)
	Recovering (3)
x	Recent or no recovery (1)

Check all disturbances observed

	ditch		point source (nonstormwater)
	tile		filling/grading
	dike	X	road bed/RR track
	weir		dredging
	stormwater input	X	Other: TIRE RUTS

Metric 4. Habitat Alteration and Development.

4 (max 20 pts.) | 16 (subtotal)

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

	None or none apparent (4)
	Recovered (3)
	Recovering (2)
x	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)
x	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)
x	Recent or no recovery (1)

Check all disturbances observed

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

16 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Site: W-CMS-001 PEM	Rater(s): C.STALLONE, R. MASSA	Date: 2/12/2019

W-CMS-001 PEM

	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 Praires (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	14
max 20pts.	subtotal

Metric 6. Plant communities, interspersion, 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)
- [x] Low (1)
- [ ] None (0)

6c. Coverage of invasive plants. Refer Table 1 ORAM long form for list. Add or deduct points for coverage

- [x] Extensive >75% cover (-5) P. arundinacea
- [ ] 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 hummucks/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 generallyw/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

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

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 45 **Date:** February 12, 2019 **Description:** PEM Category 1 Facing North	

Wetland 45 **Date:** February 12, 2019 **Description:** PEM Category 1 Facing East	

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 45

Date:

February 12, 2019

Description:

PEM

Category 1

Facing South

Wetland 45

Date:

February 12, 2019

Description:

PEM

Category 1

Facing West

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 45

Date:

February 12, 2019

Description:

PEM

Category 1

Soil Pit

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton_Gable **City/County:** Carroll **Sampling Date:** 12-Feb-19

Applicant/Owner: AEP **State:** OH **Sampling Point:** **W-CMS-02**

Investigator(s): CMS, RM **Section, Township, Range:** **S** 19 **T** 12N **R** 4W

Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** hummocky **Slope:** 20.0% / 11.3 °

Subregion (LRR or MLRA): N 124 **Lat.:** 40.476794 **Long.:** -80.937246 **Datum:** NAD83

Soil Map Unit Name: WmD - Westmoreland-Coshocton silt loams, 15 to 25 percent slopes **NWI classification:** NA

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

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

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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:

PEM wetland within swale and headwaters of HHEI-CMS-06. Snow melt and heavy rain contributed to hydrology indicators.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 1

Water Table Present? Yes ◉ No ○ Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): 6

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

Precipitation, ground water discharge and snow melt contributed to hydrology evident at time of sampling.

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

Sampling Point: W-CMS-02

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 5')				
1. Agrostis gigantea	50	☑	51.5%	FACW
2. Poa palustris	25	☑	25.8%	FACW
3. Setaria pumila	10	☐	10.3%	FAC
4. Symphyotrichum lateriflorum	5	☐	5.2%	FACW
5. Persicaria pensylvanica	5	☐	5.2%	FACW
6. Alliaria petiolata	2	☐	2.1%	FACU
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	97	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	0	x 1 =	0	
FACW species	85	x 2 =	170	
FAC species	10	x 3 =	30	
FACU species	2	x 4 =	8	
UPL species	0	x 5 =	0	
Column Totals:	97	(A)	208	(B)

Prevalence Index = B/A = 2.144

Hydrophytic Vegetation Indicators:

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

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

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

Soil

Sampling Point: W-CMS-02

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc²	Texture	Remarks
0-8	10YR 5/1	60	10YR 6/1	40	D	M	Clay Loam	
8-18	10YR 6/1	70	10YR 5/2	30	C	M	Clay Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Upland 46, 47

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton_Gable **City/County:** Carroll **Sampling Date:** 12-Feb-19

Applicant/Owner: AEP **State:** OH **Sampling Point:** **UPL-W-CMS-02&3**

Investigator(s): CMS, RM **Section, Township, Range:** **S** 19 **T** 12N **R** 4W

Landform (hillslope, terrace, etc.): Gulch or Gully **Local relief (concave, convex, none):** flat **Slope:** 25.0% / 14.0 °

Subregion (LRR or MLRA): N 124 **Lat.:** 40.476391 **Long.:** -80.937012 **Datum:** NAD83

Soil Map Unit Name: WmD - Westmoreland-Coshocton silt loams, 15 to 25 percent slopes **NWI classification:** NA

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

Are Vegetation ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ○ No ◉

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 ◉

Hydric Soil Present? Yes ○ No ◉

Wetland Hydrology Present? Yes ○ No ◉

Is the Sampled Area within a Wetland? Yes ○ No ◉

Remarks:

Maintained transmission line ROW and active agricultural field.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

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

Sampling Point: UPL-W-CMS-02&3

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 5')				
1. Poa pratensis	30	☑	40.0%	FACU
2. Trifolium pratense	30	☑	40.0%	FACU
3. Digitaria ciliaris	5	☐	6.7%	FAC
4. Rumex crispus	5	☐	6.7%	FAC
5. Plantago lanceolata	0	☐	0.0%	UPL
6.	0	☐	0.0%	
7.	5	☐	6.7%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	75	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals:	70 (A)		270 (B)

Prevalence Index = B/A = 3.857

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ○ No ◉

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

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

Soil

Sampling Point: UPL-W-CMS-02&3

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type [1]	Loc²	Texture	Remarks
0-8	10YR 5/2	100					Clay Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: rock

Depth (inches): 8

Hydric Soil Present? Yes ○ No ◉

Remarks:

Wetland 46	Rater(s): C.STALLONE, R. MASSA	Date: 2/12/2019

Metric 1. Wetland Area (size). W-CMS-002 PEM

0 (max 6 pts) | 0 (subtotal)

Select one size class and assign score.

0.03 acres

- [ ] >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)
- [x] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

1 (max 14 pts.) | 1 (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)
- [x] 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)
- [X] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

10.0 (max 30 pts.) | 11 (subtotal)

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

- [ ] High pH groundwater (5)
- [x] Other groundwater (3)
- [x] 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 one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

7 (max 20 pts.) | 18 (subtotal)

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

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [x] 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)
- [x] Poor to fair (2)
- [ ] Poor (1)

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

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

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

18 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Site: W-CMS-002 PEM	Rater(s): C.STALLONE, R. MASSA	Date: 2/12/2019

W-CMS-002 PEM

18 — subtotal this page

0 (max 10 pts.) | 18 (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 Praires (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 (max 20pts.) | 22 (subtotal)

Metric 6. Plant communities, interspersion, 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)
- [x] 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)
- [x] Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- [1] Vegetated hummucks/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 generallyw/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)**

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 46 **Date:** February 12, 2019 **Description:** PEM Category 1 Facing North	

Wetland 46 **Date:** February 12, 2019 **Description:** PEM Category 1 Facing East	

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 46
Date:
February 12, 2019
Description:
PEM
Category 1
Facing South

Wetland 46
Date:
February 12, 2019
Description:
PEM
Category 1
Facing West

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 46

Date:

February 12, 2019

Description:

PEM

Category 1

Soil Pit

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton_Gable **City/County:** Carroll **Sampling Date:** 12-Feb-19

Applicant/Owner: AEP **State:** OH **Sampling Point:** **W-CMS-03**

Investigator(s): CMS, RM **Section, Township, Range:** **S** 19 **T** 12N **R** 4W

Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** hummocky **Slope:** 15.0% / 8.5 °

Subregion (LRR or MLRA): N 124 **Lat.:** 40.476167 **Long.:** -80.936804 **Datum:** NAD83

Soil Map Unit Name: WmD - Westmoreland-Coshocton silt loams, 15 to 25 percent slopes **NWI classification:** NA

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

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

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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:

PEM wetland within swale. Snow melt and heavy rain contributed to hydrology indicators.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ◉ No ○ Depth (inches): 12

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): 6

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

Precipitation, ground water discharge and snow melt contributed to hydrology evident at time of sampling.

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

Sampling Point: W-CMS-03

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 5')				
1. Phalaris arundinacea	30	☑	31.6%	FACW
2. Poa palustris	25	☑	26.3%	FACW
3. Persicaria pensylvanica	25	☑	26.3%	FACW
4. Trifolium pratense	5	☐	5.3%	FACU
5. Lysimachia arvensis	5	☐	5.3%	UPL
6. Prunella vulgaris	5	☐	5.3%	FACU
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	95	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	80	x 2 =	160	
FAC species	0	x 3 =	0	
FACU species	10	x 4 =	40	
UPL species	5	x 5 =	25	
Column Totals:	95	(A)	225	(B)

Prevalence Index = B/A = 2.368

Hydrophytic Vegetation Indicators:

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

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

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

Soil

Sampling Point: W-CMS-03

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc²	Texture	Remarks
0-18	10YR 5/1	70	2.5YR 3/4	30	C	M	Clay Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Upland 46, 47

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton_Gable **City/County:** Carroll **Sampling Date:** 12-Feb-19

Applicant/Owner: AEP **State:** OH **Sampling Point:** **UPL-W-CMS-02&3**

Investigator(s): CMS, RM **Section, Township, Range:** **S** 19 **T** 12N **R** 4W

Landform (hillslope, terrace, etc.): Gulch or Gully **Local relief (concave, convex, none):** flat **Slope:** 25.0% / 14.0 °

Subregion (LRR or MLRA): N 124 **Lat.:** 40.476391 **Long.:** -80.937012 **Datum:** NAD83

Soil Map Unit Name: WmD - Westmoreland-Coshocton silt loams, 15 to 25 percent slopes **NWI classification:** NA

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

Are Vegetation ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ○ No ◉

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 ◉

Hydric Soil Present? Yes ○ No ◉

Wetland Hydrology Present? Yes ○ No ◉

Is the Sampled Area within a Wetland? Yes ○ No ◉

Remarks:

Maintained transmission line ROW and active agricultural field.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

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

Sampling Point: UPL-W-CMS-02&3

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 5')				
1. Poa pratensis	30	☑	40.0%	FACU
2. Trifolium pratense	30	☑	40.0%	FACU
3. Digitaria ciliaris	5	☐	6.7%	FAC
4. Rumex crispus	5	☐	6.7%	FAC
5. Plantago lanceolata	0	☐	0.0%	UPL
6.	0	☐	0.0%	
7.	5	☐	6.7%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	75	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals:	70 (A)		270 (B)

Prevalence Index = B/A = 3.857

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ○ No ◉

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

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

Soil

Sampling Point: UPL-W-CMS-02&3

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type [1]	Loc²	Texture	Remarks
0-8	10YR 5/2	100					Clay Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: rock

Depth (inches): 8

Hydric Soil Present? Yes ○ No ◉

Remarks:

Wetland 47	Rater(s): C.STALLONE, R. MASSA	Date: 2/12/2019

Metric 1. Wetland Area (size). W-CMS-003 PEM

1 (max 6 pts) | 1 (subtotal)

Select one size class and assign score.

0.22 acres

- [ ] >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)
- [x] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

1 (max 14 pts.) | 2 (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)
- [x] 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)
- [x] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

5.0 (max 30 pts.) | 7 (subtotal)

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

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [x] 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 one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [ ] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [x] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [x] Other: soil compaction

Metric 4. Habitat Alteration and Development.

3 (max 20 pts.) | 10 (subtotal)

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

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [ ] Recovering (2)
- [x] 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)
- [x] Poor (1)

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

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [ ] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

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

10 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland 47

Site: W-CMS-003 PEM	Rater(s): C.STALLONE, R. MASSA	Date: 2/12/2019

W-CMS-003 PEM

10 — subtotal this page

Metric 5. Special Wetlands.

0 (max 10 pts.) | 10 (subtotal)

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 Praires (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)

Metric 6. Plant communities, interspersion, microtopography.

0 (max 20pts.) | 10 (subtotal)

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)
- [x] 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)
- [x] Moderate 25-75% cover (-3) P. arundinacea
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- [1] Vegetated hummucks/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 generallyw/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

10 GRAND TOTAL(max 100 pts)

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 47 **Date:** February 12, 2019 **Description:** PEM Category 1 Facing North	

Wetland 47 **Date:** February 12, 2019 **Description:** PEM Category 1 Facing East	

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 47

Date:

February 12, 2019

Description:

PEM

Category 1

Facing South

Wetland 47

Date:

February 12, 2019

Description:

PEM

Category 1

Facing West

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 47	
Date: February 12, 2019	
Description: PEM Category 1 Soil Pit	

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton_Gable **City/County:** Carroll **Sampling Date:** 12-Feb-19

Applicant/Owner: AEP **State:** OH **Sampling Point:** **W-CMS-04**

Investigator(s): CMS, RM **Section, Township, Range:** **S** 19 **T** 12N **R** 4W

Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** hummocky **Slope:** 3.0% / 1.7 °

Subregion (LRR or MLRA): N 124 **Lat.:** 40.475454 **Long.:** -80.936240 **Datum:** NAD83

Soil Map Unit Name: WmC - Westmoreland-Coshocton silt loams, 8 to 15 percent slopes **NWI classification:** NA

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

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

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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:

PEM wetland within swale. Snow melt and heavy rain contributed to hydrology indicators.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 3

Water Table Present? Yes ◉ No ○ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): 6

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

Precipitation, ground water discharge and snow melt contributed to hydrology evident at time of sampling.

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

Sampling Point: W-CMS-04

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 5')				
1. Poa palustris	50	☑	50.0%	FACW
2. Epilobium coloratum	20	☑	20.0%	FACW
3. Phalaris arundinacea	10	☐	10.0%	FACW
4. Juncus tenuis	10	☐	10.0%	FAC
5. Setaria pumila	5	☐	5.0%	FAC
6. Cardamine pensylvanica	5	☐	5.0%	OBL
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	100	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	5	x 1 =	5	
FACW species	80	x 2 =	160	
FAC species	15	x 3 =	45	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	210	(B)

Prevalence Index = B/A = 2.100

Hydrophytic Vegetation Indicators:

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

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

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

Soil

Sampling Point: W-CMS-04

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc[2]	Texture	Remarks
0-8	7.5YR	4/1	80	7.5YR	5/4	20	C	M	Clay Loam	
8-16	10YR	6/3	60	10YR	6/4	40	C	M	Clay Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]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[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Upland 48

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton_Gable **City/County:** Carroll **Sampling Date:** 12-Feb-19

Applicant/Owner: AEP **State:** OH **Sampling Point:** **UPL-W-CMS-04**

Investigator(s): CMS, RM **Section, Township, Range:** **S** 19 **T** 12N **R** 4W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** flat **Slope:** 3.0% / 1.7 °

Subregion (LRR or MLRA): N 124 **Lat.:** 40.475092 **Long.:** -80.935949 **Datum:** NAD83

Soil Map Unit Name: WmC - Westmoreland-Coshocton silt loams, 8 to 15 percent slopes **NWI classification:** NA

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

Are Vegetation ☑ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ○ No ◉

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 ◉

Hydric Soil Present? Yes ○ No ◉

Wetland Hydrology Present? Yes ○ No ◉

Is the Sampled Area within a Wetland? Yes ○ No ◉

Remarks:

Maintained transmission line ROW.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

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

Sampling Point: UPL-W-CMS-04

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 5')				
1. Setaria palmifolia	30	☑	40.0%	FAC
2. Trifolium pratense	20	☑	26.7%	FACU
3. Solidago canadensis	10	☐	13.3%	FACU
4. Rumex crispus	5	☐	6.7%	FAC
5. Prunella vulgaris	5	☐	6.7%	FACU
6.	0	☐	0.0%	
7.	5	☐	6.7%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	75	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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: 2 (B)

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

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	35	x 3 =	105
FACU species	35	x 4 =	140
UPL species	0	x 5 =	0
Column Totals:	70 (A)		245 (B)

Prevalence Index = B/A = 3.500

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ○ No ◉

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

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

Soil

Sampling Point: UPL-W-CMS-04

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type [1]	Loc²	Texture	Remarks
0-4	10YR 5/2	100					Clay Loam	
4-8	10YR 5/3	100					Clay Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147,148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)
- ☐ Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: rock

Depth (inches): 8

Hydric Soil Present? Yes ○ No ◉

Remarks:

Wetland 48	Rater(s): C.STALLONE, R. MASSA	Date: 2/12/2019

Metric 1. Wetland Area (size). W-CMS-004 PEM

0 (max 6 pts) | 0 (subtotal)

Select one size class and assign score.

0.06 acres

- [ ] >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)
- [x] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

1 (max 14 pts.) | 1 (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)
- [x] 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)
- [x] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

5.0 (max 30 pts.) | 6 (subtotal)

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

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [x] 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 one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [ ] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [x] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [x] Other: soil compaction

Metric 4. Habitat Alteration and Development.

3 (max 20 pts.) | 9 (subtotal)

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

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [ ] Recovering (2)
- [x] 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)
- [x] Poor (1)

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

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [ ] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

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

9 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland 48

Site: W-CMS-004 PEM	Rater(s): C.STALLONE, R. MASSA	Date: 2/12/2019

W-CMS-004 PEM

	9
	subtotal this page
0	9
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 Praires (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	11
max 20pts.	subtotal

Metric 6. Plant communities, interspersion, 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)
- [x] 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)
- [x] Sparse 5-25% cover (-1) P. arundinacea
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- [1] Vegetated hummucks/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 generallyw/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

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

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 48

Date:

February 12, 2019

Description:

PEM

Category 1

Facing North

Wetland 48

Date:

February 12, 2019

Description:

PEM

Category 1

Facing East

AECOM

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 48

Date:

February 12, 2019

Description:

PEM

Category 1

Facing South

Wetland 48

Date:

February 12, 2019

Description:

PEM

Category 1

Facing West

PHOTOGRAPHIC RECORD
WETLANDS

Client Name:	Site Location:	Project No.
AEP	Gable-Carrollton 138 kV Transmission Line Project	60582598

Wetland 48

Date:

February 12, 2019

Description:

PEM

Category 1

Soil Pit

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Carrollton_Gable **City/County:** Carroll **Sampling Date:** 12-Feb-19

Applicant/Owner: AEP **State:** OH **Sampling Point:** **W-CMS-05**

Investigator(s): CMS, RM **Section, Township, Range:** **S** 19 **T** 12N **R** 4W

Landform (hillslope, terrace, etc.): Floodplain **Local relief (concave, convex, none):** hummocky **Slope:** 1.0% / 0.6 °

Subregion (LRR or MLRA): N 124 **Lat.:** 40.472833 **Long.:** -80.934123 **Datum:** NAD83

Soil Map Unit Name: Tg - Tioga silt loam, occasionally flooded **NWI classification:** NA

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

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

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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? Yes ◉ No ○

Remarks:

PSS wetland within floodplain of QHEI-CMS-01. Snow melt and heavy rain contributed to hydrology indicators.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 1

Water Table Present? Yes ◉ No ○ Depth (inches): 12

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): 8

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

Precipitation, ground water discharge and snow melt contributed to hydrology evident at time of sampling.

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

Sampling Point: W-CMS-05

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
	0	= Total Cover		
Sapling-Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	0	= Total Cover		
Shrub Stratum (Plot size: 15')				
1. Betula nigra	30	☑	60.0%	FACW
2. Quercus imbricaria	20	☑	40.0%	FAC
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	50	= Total Cover		
Herb Stratum (Plot size: 5')				
1. Poa palustris	30	☑	30.0%	FACW
2. Monarda fistulosa	30	☑	30.0%	UPL
3. Dichanthelium clandestinum	10	☐	10.0%	FAC
4. Solidago gigantea	10	☐	10.0%	FACW
5. Cardamine pensylvanica	10	☐	10.0%	OBL
6. Verbesina alternifolia	10	☐	10.0%	FAC
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	100	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	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	10	x 1 =	10
FACW species	70	x 2 =	140
FAC species	40	x 3 =	120
FACU species	0	x 4 =	0
UPL species	30	x 5 =	150
Column Totals:	150 (A)		420 (B)

Prevalence Index = B/A = 2.800

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

Four Vegetation Strata:

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

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

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

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

Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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

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

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

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

Hydrophytic Vegetation Present? Yes ◉ No ○

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

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

Soil

Sampling Point: W-CMS-05

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc[2]	Texture	Remarks
0-8	7.5YR	5/1	90	7.5YR	5/6	10	C	M	Sandy Clay Loam	
8-16	10YR	5/2	90	10YR	4/6	10	C	M	Sandy Clay Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]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[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

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Commission of Ohio Docketing Information System on

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in

Case No(s). 21-0554-EL-BLN

Summary: Notice LON application for the Tidd-Sunnyside 138 kV Transmission Line Rebuild Project 801-1000 electronically filed by Tanner Wolffram on behalf of AEP Ohio Transmission Company, Inc.