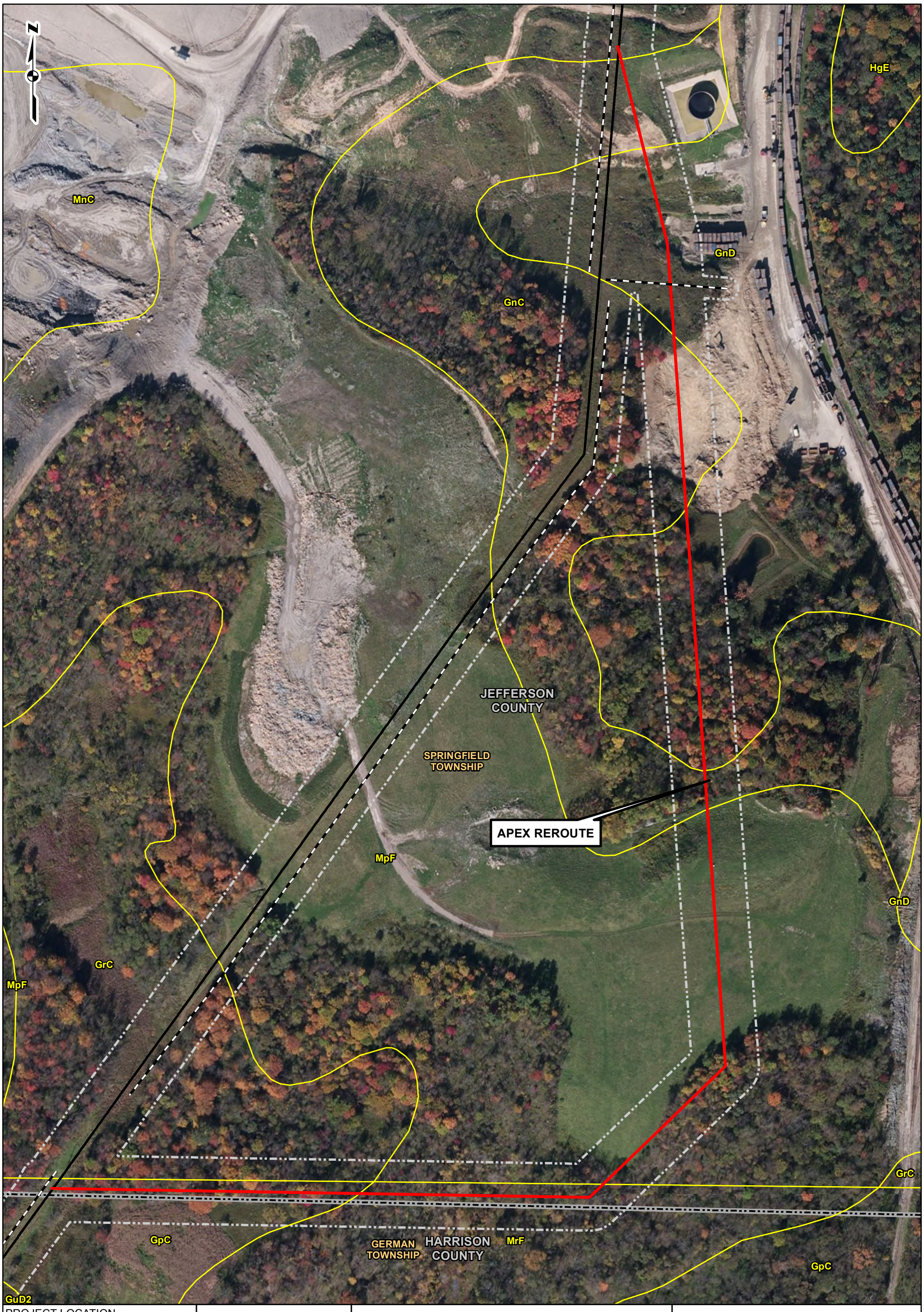

PROJECT LOCATION

JEFFERSON AND
HARRISON COUNTIES, OHIO.

REFERENCE:
ESRI WORLD IMAGERY, 2011. ESRI AND MICROSOFT CORPORATION. ACCESSED 9/2014.
SOIL SURVEY GEOGRAPHIC (SSURGO) DATABASE, USDA NRCS, 2009.

LEGEND

- Access Road
- Proposed Transmission Line
- Study Area
- Proposed Apex Reroute
- Soil Type Boundary
- Township Boundary
- County Boundary

0 100 200 400 Feet

FIGURE 3
SOILS MAP

EAST AMSTERDAM PROJECT
AMERICAN ELECTRIC POWER COMPANY

gai consultants

AEP

DRAWN BY: GHH DATE: 9/8/2014
CHECKED: MDO APPROVED: MAF

P:\PIT\2009\C091118.44 - AEP East Amsterdam-Miller\GIS\PROJECT_FILES\WDSIR\APEX\SOILMAP_2014_09_08.mxd

PHOTOGRAPHS

Stream SOH-TCW-001,
Upstream Facing Northeast (9/3/14)

Stream SOH-TCW-001,
Downstream Facing Southwest (9/3/14)

Stream SOH-TCW-002,
Upstream Facing West (9/3/14)

Stream SOH-TCW-002,
Downstream Facing East (9/3/14)

Stream SOH-TER-028,
Upstream Facing North (4/3/14)

Stream SOH-TER-028,
Downstream Facing South (4/3/13)

Stream SOH-TER-029,
Upstream Facing West (4/3/14)

Stream SOH-TER-029,
Downstream Facing East (4/3/14)

Wetland WOH-TCW-001,
Facing North (9/3/14)

Wetland WOH-TCW-001,
Facing West (9/3/14)

Wetland WOH-TCW-002,
Facing Northeast (9/3/14)

Wetland WOH-TCW-002,
Facing Southeast (9/3/14)

Wetland WOH-TCW-003,
Facing West (9/3/14)

Wetland WOH-TCW-003,
Facing East (9/3/14)

Wetland WOH-TER-010,
Facing Northeast (9/3/14)

Wetland WOH-TER-010,
Facing Southwest (9/3/14)

APPENDIX A
USACE Wetland Data Forms

gai consultants
transforming ideas into reality

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: East Amsterdam - Miller Switch 138kV City/County: Jefferson County Sampling Date: 9/3/14

Applicant/Owner: AEP State: OH Sampling Point: WOH-TCW-001

Investigator(s): TCW, RJM Section, Township, Range: Springfield Township

Landform (hilslope, terrace, etc.): toeslope Local relief (concave, convex, none): concave Slope (%) 0-2%

Subregion (LRR or MLRA): LRR N Lat: 40.42392 Long: -80.90765 Datum: NAD 83

Soil Map Unit Name: MpF - Mocristown channery silt loam, 25-70% slope NWI classification: N/A

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

Are Vegetation N, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

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

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

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

Remarks:

Sample area located in a flat valley PEM wetland. Likely a relict of past strip mining activity.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____		
Water Table Present?	Yes ____	No X	Depth (inches): ____		
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0-5"	**Wetland Hydrology Present?**	**Yes** X **No** ____

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

Remarks:

Wetland hydrology present with primary and secondary indicators

VEGETATION - Use scientific names of plants.

Sampling Point: WOH-TCW-001

Tree Stratum (Plot size: 30'r)	Absolute % Cover	Dominant Species?	Indicator Status
1. NONE			
2.			
3.			
4.			
5.			
6.			
7.			
	Ø	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15'r)			
1. NONE			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	Ø	= Total Cover	

Herb Stratum (Plot size: 5'r)			
1. Scirpus cyperinus	75	Yes	FACW
2. Typha latifolia	4	No	OBL
3. Epilobium coloratum	4	No	OBL
4. Bidens cernua	3	No	OBL
5. Persicaria pensylvanica	6	No	FACW
6. Boehmeria cylindrica	7	No	FACW
7. Pilea pumila	9	No	FACW
8. Leersia oryzoides	11	No	OBL
9.			
10.			
11.			
12.			
59.5/23.8	119	= Total Cover	

Woody Vine Stratum (Plot size: 30'r)			
1. NONE			
2.			
3.			
4.			
5.			
6.			
	Ø	= 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% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - 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.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter.

Sapling/Shrub- Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

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

hydrophytes dominant → passes dominance test

SOIL

Sampling Point: WOH-TCW-001

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-2	10YR 2/1	100%					S:L	
2-6	N 4/	65%	5Y 4/1	20%	D	M	CL	
			10YR 5/6	15%	C	M		
6-18	N 2.5/	98%	10YR 5/6	2%	C	M	S:L	15% Coal Fragments

[1]Type: C=concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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 Mucky 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)**
- X 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 X No ___

Soil Description Remarks:

Soils meet indicator F2

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: East Amsterdam-Miller Switch 138kV City/County: Jefferson County Sampling Date: 9/3/14

Applicant/Owner: AEP State: OH Sampling Point: WOH-TCW-002

Investigator(s): TCW, RJM Section, Township, Range: Springfield Township

Landform (hilslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave Slope (%) 2-3%

Subregion (LRR or MLRA): LRR N Lat: 40.42755 Long: -80.90591 Datum: NAD 83

Soil Map Unit Name: GnD - Gilpin silt loam, 15-25% slopes NWI classification: PUBG

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

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

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?**	Yes X No ____
Hydric Soil Present?	Yes X	No ____	WOH-TCW-002	
Wetland Hydrology Present?	Yes X	No ____		

Remarks:

Sample area located at the shallow end of a man-made impoundment within a PEM fringe area.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	0.25"
Water Table Present?	Yes X	No ____	Depth (inches):	10"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	to surface

Wetland Hydrology Present? Yes X No ____

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

Remarks:

Wetland hydrology present with primary and secondary indicators

Summary: Correspondence enclosing an addendum to the Application filed on June 27, 2014 (Part 2 of 6) electronically filed by Mr. Yazen Alami on behalf of AEP Ohio Transmission Company