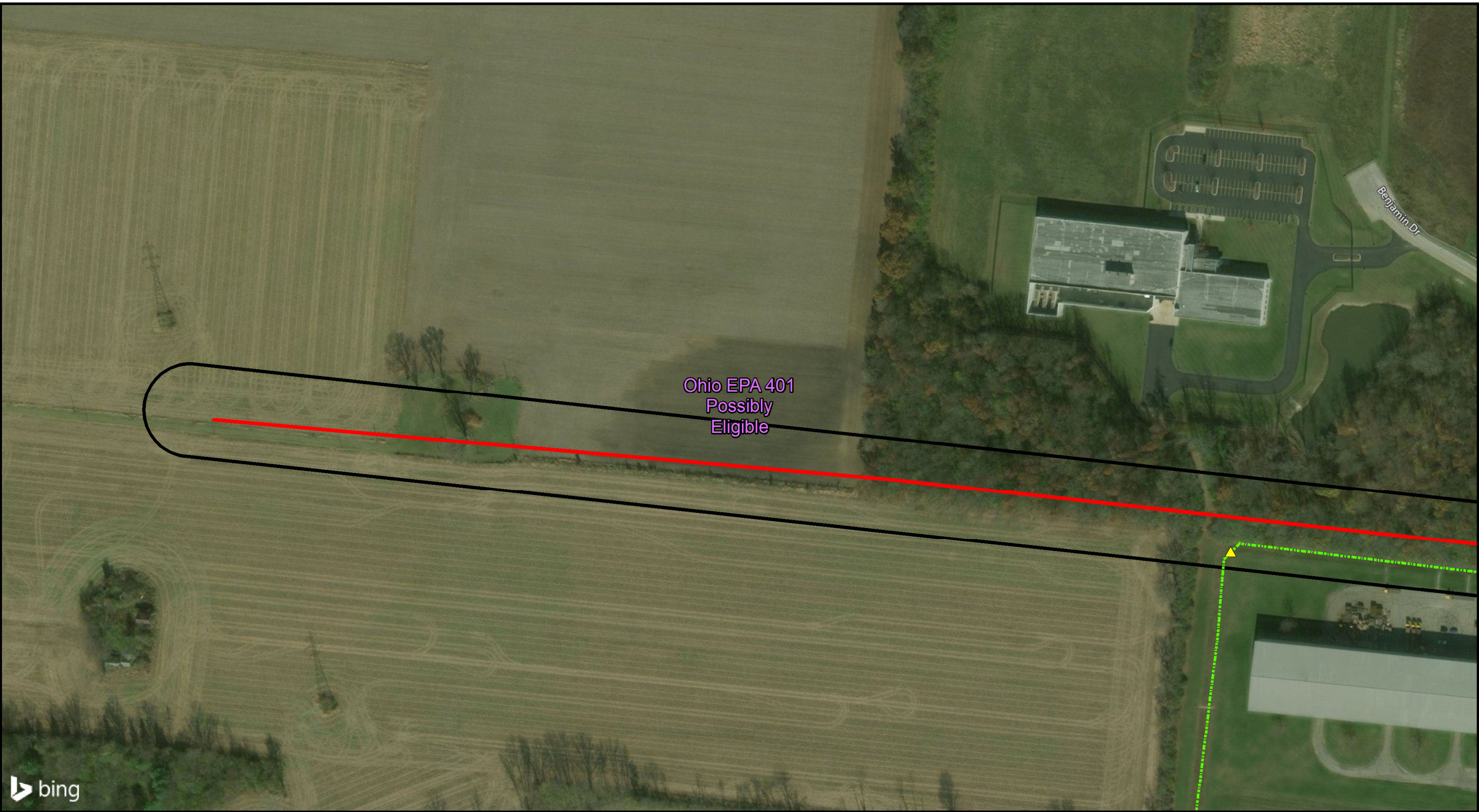


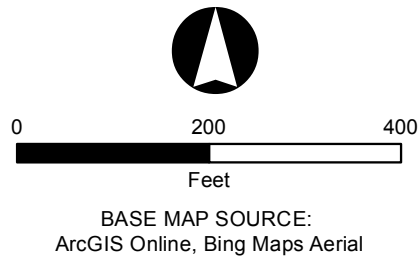
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- LEGEND**
- Proposed East Springfield-London #2 Transmission Line Extensions
 - Existing Substation
 - Project Survey Boundary
 - Ohio EPA 401 WQC for Nationwide Permit

- Delineated Stream (HHEI)
- Delineated Wetland Inside of Survey Corridor
- Approximate Wetland Outside of Survey Corridor
- Delineated Pond

- Upland Data Point
- Wetland Data Point
- Non JD Ditch



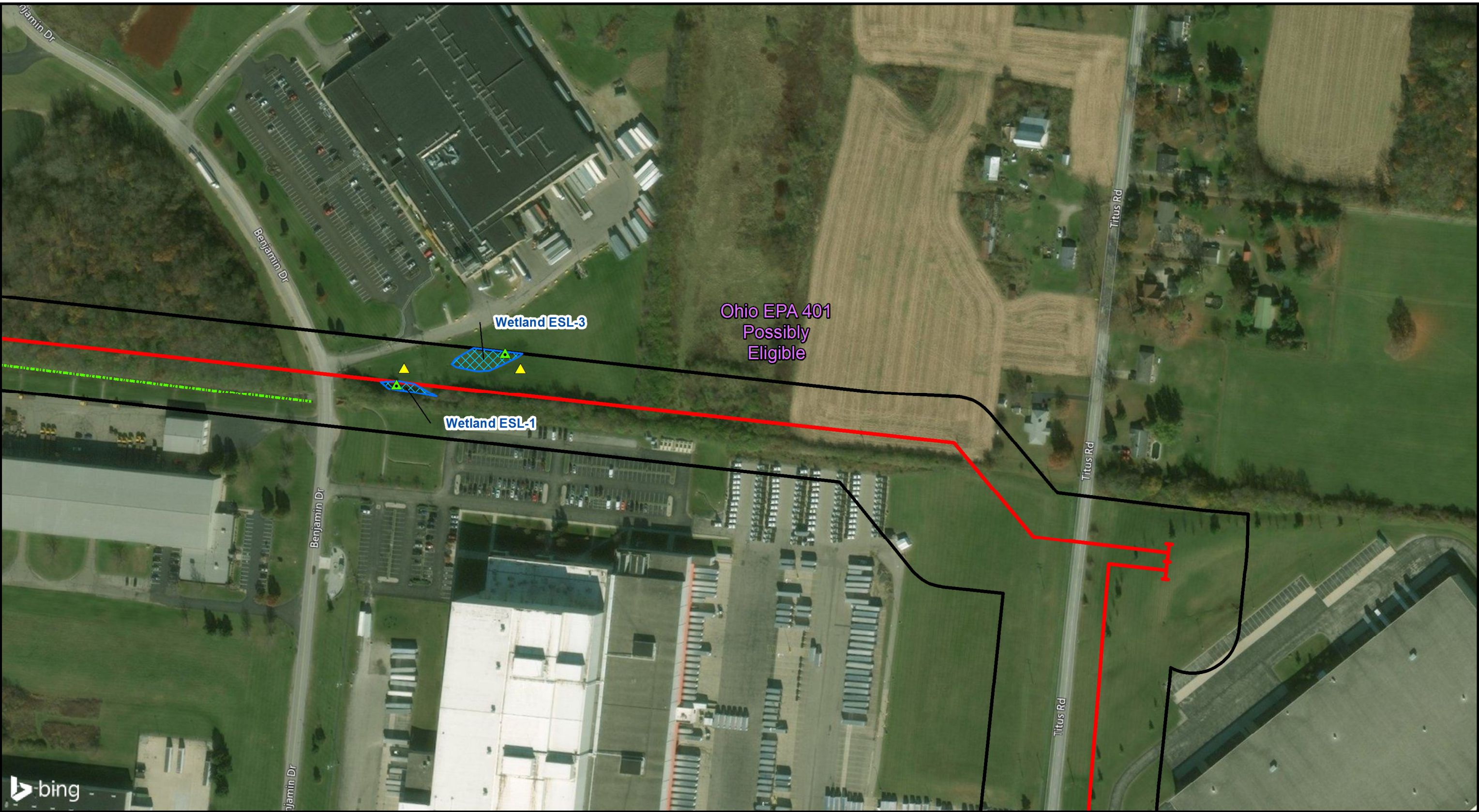
East Springfield-London #2 138 kV
Transmission Line Extensions to
North Titus Substation Project

FIGURE 3A
WETLAND DELINEATION AND
STREAM ASSESSMENT MAP

JOB NO. 60560312



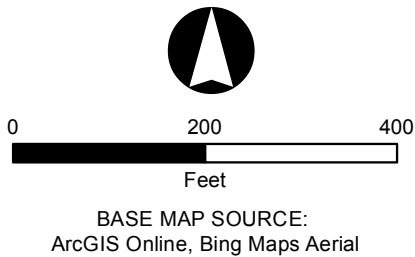
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- LEGEND**
- Proposed East Springfield-London #2 Transmission Line Extensions
 - Existing Substation
 - Project Survey Boundary
 - Ohio EPA 401 WQC for Nationwide Permit

- Delineated Stream (HHEI)
- Delineated Wetland Inside of Survey Corridor
- Approximate Wetland Outside of Survey Corridor
- Delineated Pond

- Upland Data Point
- Wetland Data Point
- Non JD Ditch



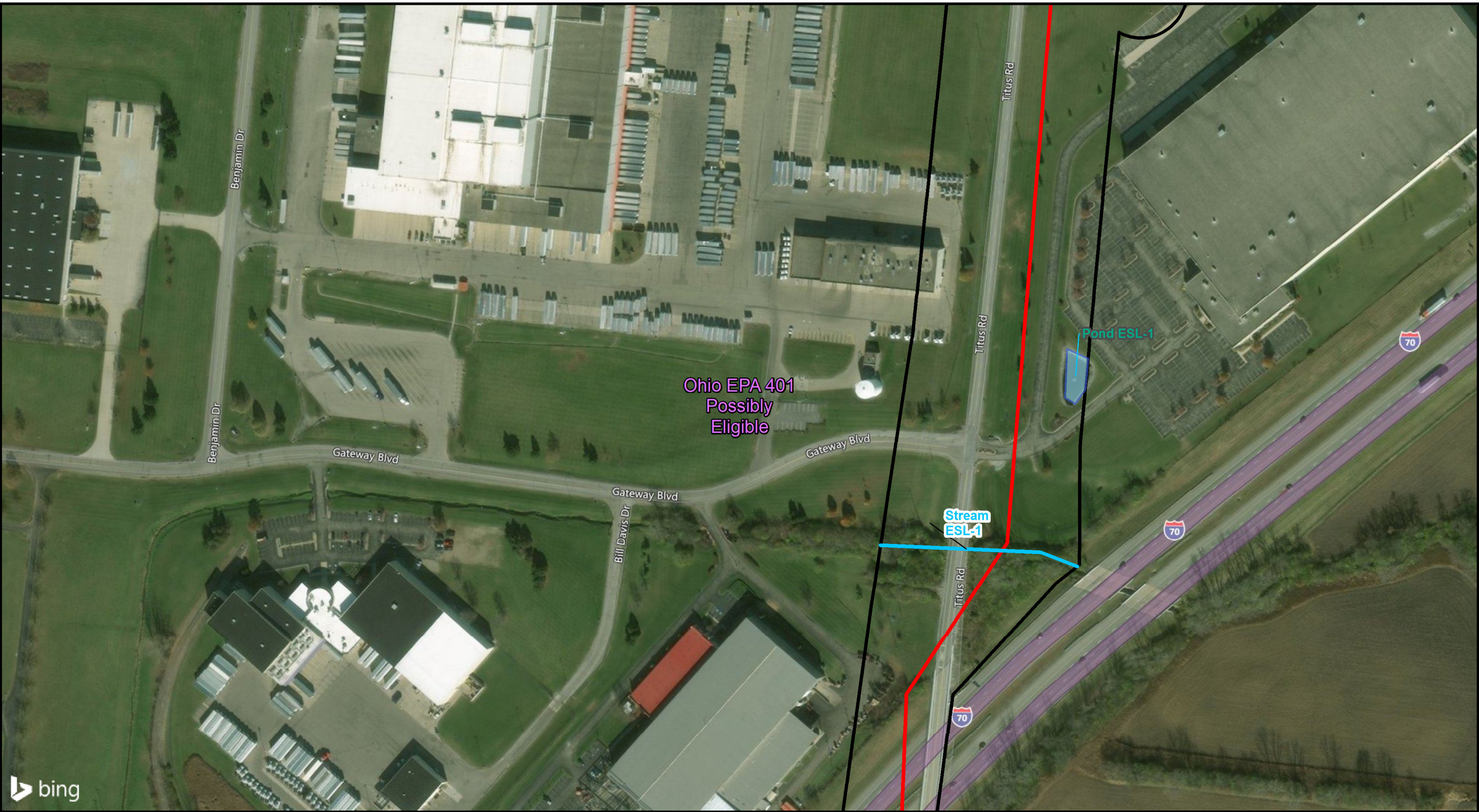
East Springfield-London #2 138 kV
Transmission Line Extensions to
North Titus Substation Project

FIGURE 3B
WETLAND DELINEATION AND
STREAM ASSESSMENT MAP

JOB NO. 60560312

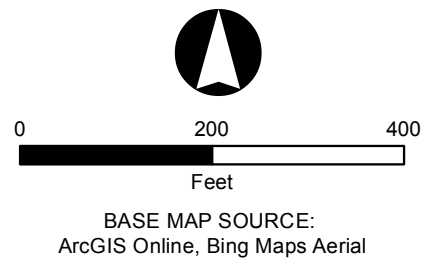


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LEGEND

- | | | |
|--|--|--------------------|
| Proposed East Springfield-London #2 Transmission Line Extensions | Delineated Stream (HHEI) | Upland Data Point |
| Existing Substation | Delineated Wetland Inside of Survey Corridor | Wetland Data Point |
| Project Survey Boundary | Approximate Wetland Outside of Survey Corridor | Non JD Ditch |
| Ohio EPA 401 WQC for Nationwide Permit | Delineated Pond | |



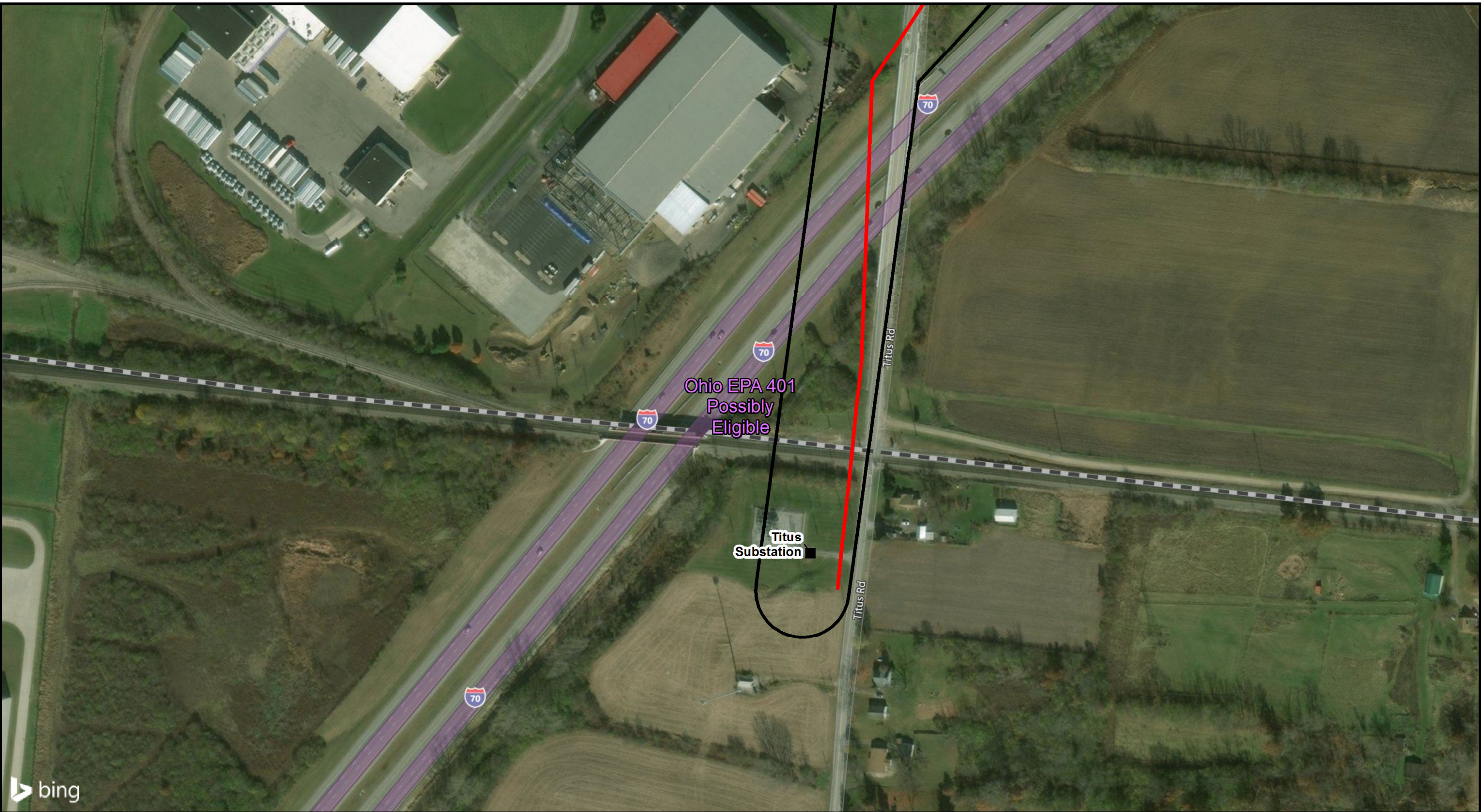
East Springfield-London #2 138 kV
Transmission Line Extensions to
North Titus Substation Project

FIGURE 3C
WETLAND DELINEATION AND
STREAM ASSESSMENT MAP

JOB NO. 60560312

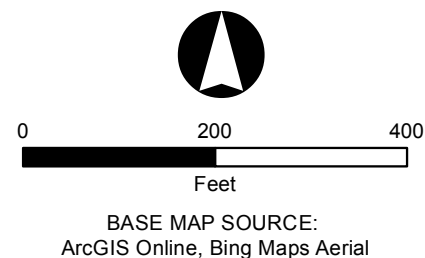


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LEGEND

- | | | |
|--|--|--------------------|
| Proposed East Springfield-London #2 Transmission Line Extensions | Delineated Stream (HHEI) | Upland Data Point |
| Existing Substation | Delineated Wetland Inside of Survey Corridor | Wetland Data Point |
| Project Survey Boundary | Approximate Wetland Outside of Survey Corridor | Non JD Ditch |
| Ohio EPA 401 WQC for Nationwide Permit | Delineated Pond | |



	East Springfield-London #2 138 kV Transmission Line Extensions to North Titus Substation Project
	FIGURE 3D WETLAND DELINEATION AND STREAM ASSESSMENT MAP
JOB NO. 60560312	

APPENDIX A**U.S. ARMY CORPS OF ENGINEERS WETLAND & UPLAND FORMS**

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: silflex City/County: Clark Sampling Date: 11-Dec-17
 Applicant/Owner: FirstEnergy State: OH Sampling Point: w-01
 Investigator(s): BAE, PJR Section, Township, Range: S 4 T 5E R 9N
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave
 Slope: 0.0% / 0.0° Lat.: 39.911089 Long.: -83.7189483 Datum: NAD 83
 Soil Map Unit Name: Thackery silt loam, 0 to 2 percent slopes (ThA) 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 in isolated depressional area between mowed lawn and berm.		

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:	
1. _____	0	☐ 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC:	<u>2</u> (A)
2. _____	0	☐ 0.0%	_____	Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. _____	0	☐ 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC:	<u>100.0%</u> (A/B)
4. _____	0	☐ 0.0%	_____		
5. _____	0	☐ 0.0%	_____		
	0	= Total Cover			
				Prevalence Index worksheet:	
Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of:	Multiply by:
1. _____	0	☐ 0.0%	_____	OBL species <u>15</u>	x 1 = <u>15</u>
2. _____	0	☐ 0.0%	_____	FACW species <u>40</u>	x 2 = <u>80</u>
3. _____	0	☐ 0.0%	_____	FAC species <u>50</u>	x 3 = <u>150</u>
4. _____	0	☐ 0.0%	_____	FACU species <u>0</u>	x 4 = <u>0</u>
5. _____	0	☐ 0.0%	_____	UPL species <u>0</u>	x 5 = <u>0</u>
	0	= Total Cover		Column Totals: <u>105</u> (A)	<u>245</u> (B)
Herb Stratum (Plot size: _____)				Prevalence Index = B/A = <u>2.333</u>	
1. <u>Apocynum cannabinum</u>	50	☒ 47.6%	FAC	Hydrophytic Vegetation Indicators:	
2. <u>Phalaris arundinacea</u>	40	☒ 38.1%	FACW	☐ 1 - Rapid Test for Hydrophytic Vegetation	
3. <u>Scirpus cyperinus</u>	15	☐ 14.3%	OBL	☒ 2 - Dominance Test is > 50%	
4. _____	0	☐ 0.0%	_____	☒ 3 - Prevalence Index is ≤ 3.0 ¹	
5. _____	0	☐ 0.0%	_____	☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
6. _____	0	☐ 0.0%	_____	☐ Problematic Hydrophytic Vegetation ¹ (Explain)	
7. _____	0	☐ 0.0%	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. _____	0	☐ 0.0%	_____		
9. _____	0	☐ 0.0%	_____		
10. _____	0	☐ 0.0%	_____		
	105	= Total Cover			
Woody Vine Stratum (Plot size: _____)					
1. _____	0	☐ 0.0%	_____	Hydrophytic Vegetation Present? Yes ☒ No ☐	
2. _____	0	☐ 0.0%	_____		
	0	= Total Cover			
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-01**

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

Depth (inches)	Matrix		Redox Features					Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²			
0-12	10YR	4/2	95	10YR	5/6	5	C	M	Silty 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)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Muck Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)

☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☒ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:
☐ Coast Prairie Redox (A16)
☐ Dark Surface (S7)
☐ Iron Manganese Masses (F12)
☐ 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:

HYDROLOGY

Wetland Hydrology Indicators:

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

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)

☐ 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)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ 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:

Wetland ESL-3

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Silflex City/County Clark Sampling Date: 23-Jan-18
Applicant/Owner FE State: OH Sampling Point: **w-bae-180123-01**
Investigator(s) BAE Section, Township, Range: 4 T 5E R 9N
Landform (hillslope, terrace, etc.) Flat Local relief (concave, convex, none) concave
Slope: 0.0% / 0.0 ° Lat.: 39.91120187 Long.: -83.71817305 Datum: NAD 83
Soil Map Unit Nam ThA NWI classification N/A

Are climatic/hydrologic conditions on the site typical for this time of ye 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: mowed wetland in field	

VEGETATION - Use scientific names of plants.

	Absolut e	Dominan t Species? Rel.Strat	Indicato r
Tree Stratu (Plot size: _____)			
1. _____	0	☐ 0.0%	_____
2. _____	0	☐ 0.0%	_____
3. _____	0	☐ 0.0%	_____
4. _____	0	☐ 0.0%	_____
5. _____	0	☐ 0.0%	_____
	0	= Total Cover	
Sapling/Shrub Stratu (Plot size: _____)			
1. _____	0	☐ 0.0%	_____
2. _____	0	☐ 0.0%	_____
3. _____	0	☐ 0.0%	_____
4. _____	0	☐ 0.0%	_____
5. _____	0	☐ 0.0%	_____
	0	= Total Cover	
Herb Stratu (Plot size: _____)			
1. <u>Phalaris arundinacea</u>	90	☒ 90.0%	FACW
2. <u>Juncus effusus</u>	10	☐ 10.0%	OBL
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%	_____
	100	= Total Cover	
Woody Vine Stratu (Plot size: _____)			
1. _____	0	☐ 0.0%	_____
2. _____	0	☐ 0.0%	_____
	0	= Total Cover	

Dominance Test workshee
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 100.0% (A/B)

Prevalence Index workshee

Total % Cover of:	Multiply by:
OBL species <u>10</u>	x 1 = <u>10</u>
FACW species <u>90</u>	x 2 = <u>180</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u>	(A) <u>190</u> (B)

Prevalence Index = B/A = 1.900

Hydrophytic Vegetation Indicator
☒ 1 - Rapid Test for Hydrophytic Vegetati
☒ 2 - Dominance Test is > 50
☒ 3 - Prevalence Index is ≤ 3.¹
☐ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate
☐ Problematic Hydrophytic Vegetation¹ (Expla
¹ Indicators of hydric soil and wetland hydrology must

**Hydrophyti
c
Vegetation** 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

SOIL

Sampling Point: w-bae-180123-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indic

Depth (inches	Matrix		%	Redox Features			Texture	Remarks	
	Color (moist			Color (moist	%	Type ¹			Loc ²
0-12	10YR	4/2	85	10YR	5/8	15	C	M	

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

2 Location: PL=Pore Lining.

Hydric Soil Indicators:

☐ Histosol (A1)

☐ Histic Epipedon (A2)

☐ Black Histic (A3)

☐ Hydrogen Sulfide (A4)

☐ Stratified Layers (A5)

☐ 2 cm Muck (A10)

☐ Depleted Below Dark Surface (A11)

☐ Thick Dark Surface (A12)

☐ Sandy Muck Mineral (S1)

☐ 5 cm Mucky Peat or Peat (S3)

☐ Sandy Gleyed Matrix (S4)

☐ Sandy Redox (S5)

☐ Stripped Matrix (S6)

☐ Loamy Mucky Mineral (F1)

☐ Loamy Gleyed Matrix (F2)

☒ Depleted Matrix (F3)

☐ Redox Dark Surface (F6)

☐ Depleted Dark Surface (F7)

☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³

☐ Coast Prairie Redox (A1)

☐ Dark Surface (S7)

☐ Iron Manganese Masses (F1)

☐ Very Shallow Dark Surface (TF1)

☐ Other (Explain in Remark

3 Indicators of hydrophytic vegetation and wetland hydrology must be

Restrictive Layer (if observed)

Type:

Depth (inches):

Hydric Soil Present Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicator

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

☒ Surface Water (A1)

☒ High Water Table (A2)

☒ Saturation (A3)

☐ Water Marks (B1)

☐ Sediment Deposits (B2)

☐ Drift Deposits (B3)

☐ Algal Mat or Crust (B4)

☐ Iron Deposits (B5)

☐ Inundation Visible on Aerial Imagery (B7)

☐ Sparsely Vegetated Concave Surface (B8)

☐ 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)

☐ Gauge or Well Data (D9)

☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requir

☐ Surface Soil Cracks (B6)

☐ Drainage Patterns (B10)

☐ Dry Season Water Table (C2)

☐ Crayfish Burrows (C8)

☐ Saturation Visible on Aerial Imagery (C9)

☐ Stunted or Stressed Plants (D1)

☐ Geomorphic Position (D2)

☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No

Water Table Present? Yes No

Saturation Present? (includes capillary fringe) Yes No

Depth (inches): 1

Depth (inches): 5

Depth (inches): 0

Wetland Hydrology Presen Yes No

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

Remarks:

US Army Corps of Engineer

Midwest Region - Version 2.0

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Silflex City/County: Clark Sampling Date: 11-Dec-17
 Applicant/Owner: FirstEnergy State: OH Sampling Point: upl-01
 Investigator(s): BAE, PJR Section, Township, Range: S 4 T 5E R 9N
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): flat
 Slope: 0.0% / 0.0° Lat.: 39.9110088 Long.: -83.7190034 Datum: NAD 83
 Soil Map Unit Name: Thackery silt loam, 0 to 2 percent slopes (ThA) NWI classification: none

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:		

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	☐ 0.0%	_____
2. _____	0	☐ 0.0%	_____
3. _____	0	☐ 0.0%	_____
4. _____	0	☐ 0.0%	_____
5. _____	0	☐ 0.0%	_____
0 = Total Cover			
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%	_____
0 = Total Cover			
Herb Stratum (Plot size: _____)			
1. <u>Poa pratensis</u>	50	☒ 50.0%	FAC
2. <u>Festuca arundinacea</u>	50	☒ 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%	_____
100 = Total Cover			
Woody Vine Stratum (Plot size: _____)			
1. _____	0	☐ 0.0%	_____
2. _____	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 <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>50</u>	x 3 = <u>150</u>
FACU species <u>50</u>	x 4 = <u>200</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>350</u> (B)

 Prevalence Index = B/A = 3.500

Hydrophytic Vegetation Indicators:
☐ 1 - Rapid Test for Hydrophytic Vegetation
☐ 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.

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-01**

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR	4/2	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)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Muck Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)

☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

☐ Coast Prairie Redox (A16)
☐ Dark Surface (S7)
☐ Iron Manganese Masses (F12)
☐ 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:

HYDROLOGY

Wetland Hydrology Indicators:

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

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)

☐ 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)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?

Yes ☐

No ☒

Water Table Present?

Yes ☐

No ☒

Saturation Present?

Yes ☐

No ☒

(includes capillary fringe)

Depth (inches):

Depth (inches):

Depth (inches):

Wetland Hydrology Present?

Yes ☐

No ☒

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

Remarks:

Project/Site Silflex City/County Clark Sampling Date: 23-Jan-18
Applicant/Owner FE State: OH Sampling Point: upl-bae-180123-01
Investigator(s) BAE Section, Township, Range: 4 T 5E R 9N
Landform (hillslope, terrace, etc.) Flat Local relief (concave, convex, none) none
Slope: 0.0% / 0.0° Lat.: 439.9111251 Long.: -83.7180536 Datum: NAD 83
Soil Map Unit Nam ThA NWI classification N/A

Are climatic/hydrologic conditions on the site typical for this time of ye 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: upland dp	

VEGETATION - Use scientific names of plants.

Tree Stratu (Plot size: _____)	Absolut e	Dominan t Species? Rel.Strat	Indicato r
1. _____	0	☐ 0.0%	_____
2. _____	0	☐ 0.0%	_____
3. _____	0	☐ 0.0%	_____
4. _____	0	☐ 0.0%	_____
5. _____	0	☐ 0.0%	_____
	0	= Total Cover	
Sapling/Shrub Stratu (Plot size: _____)			
1. _____	0	☐ 0.0%	_____
2. _____	0	☐ 0.0%	_____
3. _____	0	☐ 0.0%	_____
4. _____	0	☐ 0.0%	_____
5. _____	0	☐ 0.0%	_____
	0	= Total Cover	
Herb Stratu (Plot size: _____)			
1. <u>Poa pratensis</u>	30	☒ 30.0%	FAC
2. <u>Festuca arundinacea</u>	70	☒ 70.0%	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%	_____
	100	= Total Cover	
Woody Vine Stratu (Plot size: _____)			
1. _____	0	☐ 0.0%	_____
2. _____	0	☐ 0.0%	_____
	0	= Total Cover	

Dominance Test workshee
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 50.0% (A/B)

Prevalence Index workshee

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>30</u>	x 3 = <u>90</u>
FACU species <u>70</u>	x 4 = <u>280</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u>	(A) <u>370</u> (B)
Prevalence Index = B/A = <u>3.700</u>	

Hydrophytic Vegetation Indicato
☐ 1 - Rapid Test for Hydrophytic Vegetati
☐ 2 - Dominance Test is > 50
☐ 3 - Prevalence Index is ≤3. ¹
☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate
☐ Problematic Hydrophytic Vegetation ¹ (Expla
¹ Indicators of hydric soil and wetland hydrology must

**Hydrophyti
c
Vegetation** Yes ☐ No ☒

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

SOIL

Sampling Point: upl-bae-180123-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indic

Depth (inches	Matrix		Redox Features				Texture	Remarks
	Color (moist	%	Color (moist	%	Type ¹	Loc ²		
0-12	10YR	4/3	100				Silt Loam	

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

2 Location: PL=Pore Lining.

Hydric Soil Indicators:

☐ Histosol (A1)

☐ Histic Epipedon (A2)

☐ Black Histic (A3)

☐ Hydrogen Sulfide (A4)

☐ Stratified Layers (A5)

☐ 2 cm Muck (A10)

☐ Depleted Below Dark Surface (A11)

☐ Thick Dark Surface (A12)

☐ Sandy Muck Mineral (S1)

☐ 5 cm Mucky Peat or Peat (S3)

☐ Sandy Gleyed Matrix (S4)

☐ Sandy Redox (S5)

☐ Stripped Matrix (S6)

☐ Loamy Mucky Mineral (F1)

☐ Loamy Gleyed Matrix (F2)

☐ Depleted Matrix (F3)

☐ Redox Dark Surface (F6)

☐ Depleted Dark Surface (F7)

☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³

☐ Coast Prairie Redox (A1)

☐ Dark Surface (S7)

☐ Iron Manganese Masses (F1)

☐ Very Shallow Dark Surface (TF1)

☐ Other (Explain in Remark

3 Indicators of hydrophytic vegetation and wetland hydrology must be

Restrictive Layer (if observed)

Type:

Depth (inches):

Hydric Soil Present

Yes ☐

No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicator

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

☐ Surface Water (A1)

☐ High Water Table (A2)

☐ Saturation (A3)

☐ Water Marks (B1)

☐ Sediment Deposits (B2)

☐ Drift Deposits (B3)

☐ Algal Mat or Crust (B4)

☐ Iron Deposits (B5)

☐ Inundation Visible on Aerial Imagery (B7)

☐ Sparsely Vegetated Concave Surface (B8)

☐ 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)

☐ Gauge or Well Data (D9)

☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two requir

☐ Surface Soil Cracks (B6)

☐ Drainage Patterns (B10)

☐ Dry Season Water Table (C2)

☐ Crayfish Burrows (C8)

☐ Saturation Visible on Aerial Imagery (C9)

☐ Stunted or Stressed Plants (D1)

☐ Geomorphic Position (D2)

☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?

Yes ☐

No ☒

Water Table Present?

Yes ☐

No ☒

Saturation Present?
(includes capillary fringe)

Yes ☐

No ☒

Depth (inches):

Depth (inches):

Depth (inches):

Wetland Hydrology Presen

Yes ☐

No ☒

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

Remarks:

US Army Corps of Engineer

Midwest Region - Version 2.0

Project/Site: Silfex City/County: Clark Sampling Date: 26-Jan-18
Applicant/Owner: AEP State: OH Sampling Point: Upl-Pjr-012618-01
Investigator(s): PJR Section, Township, Range: S 4 T 5E R 9N
Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): none
Slope: 0.0% 0.0 ° Lat.: 39.9111259 Long.: -83.72305699 Datum: NAD 83
Soil Map Unit Name: EmA 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: Data point was taken in non-jurisdictional ditch/swale area. Hydric soils were not present and vegetation was marginal. Hydrology only present due to recent snow melt and heavy rain event.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1. _____	0	☐ 0.0%	_____	Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	0	☐ 0.0%	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	0	☐ 0.0%	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
4. _____	0	☐ 0.0%	_____	
5. _____	0	☐ 0.0%	_____	
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:
1. _____	0	☐ 0.0%	_____	Total % Cover of: Multiply by:
2. _____	0	☐ 0.0%	_____	OBL species <u>0</u> x 1 = <u>0</u>
3. _____	0	☐ 0.0%	_____	FACW species <u>0</u> x 2 = <u>0</u>
4. _____	0	☐ 0.0%	_____	FAC species <u>60</u> x 3 = <u>180</u>
5. _____	0	☐ 0.0%	_____	FACU species <u>1</u> x 4 = <u>4</u>
	0	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>
Herb Stratum (Plot size: _____)				Column Totals: <u>61</u> (A) <u>184</u> (B)
1. <u>Poa pratensis</u>	60	☒ 98.4%	FAC	Prevalence Index = B/A = <u>3.016</u>
2. <u>Plantago lanceolata</u>	1	☐ 1.6%	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%	_____	
	61	= Total Cover		
Woody Vine Stratu (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. _____	0	☐ 0.0%	_____	☐ 1 - Rapid Test for Hydrophytic Vegetation
2. _____	0	☐ 0.0%	_____	☒ 2 - Dominance Test is > 50%
	0	= Total Cover		☐ 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.
				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-Pir-012618-01

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks		
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²				
0-6	7.5YR	5/8	65	10YR	5/2	35	C	M	Silty 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)

☐ Depleted Below Dark Surface (A11)

☐ Thick Dark Surface (A12)

☐ Sandy Muck Mineral (S1)

☐ 5 cm Mucky Peat or Peat (S3)

☐ Sandy Gleyed Matrix (S4)

☐ Sandy Redox (S5)

☐ Stripped Matrix (S6)

☐ Loamy Mucky Mineral (F1)

☐ Loamy Gleyed Matrix (F2)

☐ Depleted Matrix (F3)

☐ Redox Dark Surface (F6)

☐ Depleted Dark Surface (F7)

☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils ³:

☐ Coast Prairie Redox (A16)

☐ Dark Surface (S7)

☐ Iron Manganese Masses (F12)

☐ 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:

HYDROLOGY

Wetland Hydrology Indicators:

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

☒ Surface Water (A1)

☒ High Water Table (A2)

☒ Saturation (A3)

☐ Water Marks (B1)

☐ Sediment Deposits (B2)

☐ Drift Deposits (B3)

☐ Algal Mat or Crust (B4)

☐ Iron Deposits (B5)

☐ Inundation Visible on Aerial Imagery (B7)

☐ Sparsely Vegetated Concave Surface (B8)

☒ 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)

☐ Gauge or Well Data (D9)

☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

☐ Surface Soil Cracks (B6)

☐ Drainage Patterns (B10)

☐ Dry Season Water Table (C2)

☐ Crayfish Burrows (C8)

☐ Saturation Visible on Aerial Imagery (C9)

☐ Stunted or Stressed Plants (D1)

☐ Geomorphic Position (D2)

☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?

Yes No

Depth (inches): 1

Water Table Present?

Yes No

Depth (inches): 3

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:

APPENDIX B

OEPA WETLAND ORAM FORMS

Wetland ESL-1

Site: Tline	Rater(s): B. Ewoldt	Date: 12/11/2017
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0	0
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max 6 pts subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

Field Id:

w-bae-171211-01

0.04 acres

3	3
---	---

max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

8.0	11.0
-----	------

max 30 pts. subtotal

Metric 3. Hydrology.

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

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

3c. Maximum water depth. Select one.

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

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

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

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

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

6.5	17.5
-----	------

max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed

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

17.5

subtotal this page ORAM v. 5.0 Field Form Quantitative Rating

Wetland ESL-1

Site: Tline	Rater(s): B. Ewoldt	Date: 12/11/2017
-------------	---------------------	------------------

17.5

subtotal this page

0 17.5

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

0 17.5

max 20pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

6c. Coverage of invasive plants. Refer

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Field Id:

w-bae-171211-01

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

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

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

Category 1

17.5 GRAND TOTAL(max 100 pts)

Wetland ESL-3

Site: Tline	Rater(s): B. Ewoldt	Date: 1/23/2018
-------------	---------------------	-----------------

1	1
---	---

Metric 1. Wetland Area (size).

Field Id:

w-bae-180123-01

max 6 pts

subtotal

Select one size class and assign score.

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

0.16 acres

3	4
---	---

Metric 2. Upland buffers and surrounding land use.

max 14 pts.

subtotal

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

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

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

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

6.0	10.0
-----	------

Metric 3. Hydrology.

max 30 pts.

subtotal

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

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

3c. Maximum water depth. Select one.

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

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

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

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

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

5	15
---	----

Metric 4. Habitat Alteration and Development.

max 20 pts.

subtotal

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

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

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

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

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

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

Check all disturbances observed

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

15

subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ESL-3

Site: Tline	Rater(s): B. Ewoldt	Date: 1/23/2018
-------------	---------------------	-----------------

Field Id:

w-bae-180123-01

15

subtotal this page

0

15

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

-2

13

max 20pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

6c. Coverage of invasive plants. Refer

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

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

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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
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Category 1

13

GRAND TOTAL(max 100 pts)

APPENDIX C
OEPA QHEI STREAM FORMS



Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 45.5
Stream & Location: Silflex Industrial Park

RM: _ _ _ **Date:** 12/11/17

QH-bae-20171211-01,

Scorers Full Name & Affiliation: Betsy Ewoldt/AECOM

River Code: _ _ _ _ **STORET #:** _ _ _ **Lat./ Long.:** 39.906319, -83.71375

Office verified location ☐
1] SUBSTRATE Check **ONLY Two** substrate **TYPE BOXES**; estimate % or note every type present

Check ONE (Or 2 & average)

BEST TYPES		OTHER TYPES		ORIGIN		QUALITY	
☐ BLDR /SLABS [10]	☐ POOL RIFFLE	☐ HARDPAN [4]	☐ POOL RIFFLE	☐ LIMESTONE [1]	☐ SILT	☐ HEAVY [-2]	Substrate 15 Maximum 20
☐ BOULDER [9]	☐ 15	☐ DETRITUS [3]	☐ 5	☒ TILLS [1]	☐ WETLANDS [0]	☐ MODERATE [-1]	
☐ COBBLE [8]	☐ 50	☐ MUCK [2]	☐ 5	☐ SANDSTONE [0]	☐ RIP/RAP [0]	☒ NORMAL [0]	
☒ GRAVEL [7]	☐ 30	☐ SILT [2]	☐ 5	☐ LACUSTURINE [0]	☐ SHALE [-1]	☐ EXTENSIVE [-2]	
☒ SAND [6]	☐ 30	☐ ARTIFICIAL [0]	☐ 5	☐ COAL FINES [-2]	☐ NONE [1]	☐ MODERATE [-1]	
☐ BEDROCK [5]	☐ 30	☐ 30	☐ 5			☒ NORMAL [0]	

(Score natural substrates; ignore sludge from point-sources)

NUMBER OF BEST TYPES: ☐ 4 or more [2] ☒ 3 or less [0]

Comments

2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

AMOUNT

Check ONE (Or 2 & average)

☐ UNDERCUT BANKS [1]	☐ POOLS > 70cm [2]	☐ OXBOWS, BACKWATERS [1]	☐ EXTENSIVE >75% [11]
☐ OVERHANGING VEGETATION [1]	☐ ROOTWADS [1]	☐ AQUATIC MACROPHYTES [1]	☐ MODERATE 25-75% [7]
☐ SHALLOWS (IN SLOW WATER) [1]	☐ BOULDERS [1]	☐ LOGS OR WOODY DEBRIS [1]	☐ SPARSE 5-<25% [3]
☐ ROOTMATS [1]			☒ NEARLY ABSENT <5% [1]

Comments

Cover
Maximum 20 1

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY
☐ HIGH [4]	☐ EXCELLENT [7]	☐ NONE [6]	☐ HIGH [3]
☐ MODERATE [3]	☒ GOOD [5]	☒ RECOVERED [4]	☒ MODERATE [2]
☒ LOW [2]	☒ FAIR [3]	☐ RECOVERING [3]	☐ LOW [1]
☐ NONE [1]	☐ POOR [1]	☐ RECENT OR NO RECOVERY [1]	

Comments

Channel
Maximum 20 12

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for **EACH BANK** (Or 2 per bank & average)

River right looking downstream

EROSION	RIPIARIAN WIDTH	FLOOD PLAIN QUALITY
☒ NONE / LITTLE [3]	☐ WIDE > 50m [4]	☐ FOREST, SWAMP [3]
☐ MODERATE [2]	☐ MODERATE 10-50m [3]	☐ SHRUB OR OLD FIELD [2]
☐ HEAVY / SEVERE [1]	☐ NARROW 5-10m [2]	☐ RESIDENTIAL, PARK, NEW FIELD [1]
	☒ VERY NARROW < 5m [1]	☐ FENCED PASTURE [1]
	☐ NONE [0]	☐ OPEN PASTURE, ROWCROP [0]

Comments

Conservation Tillage
☐ CONSERVATION TILLAGE [1]
☒ URBAN OR INDUSTRIAL [0]
☐ MINING / CONSTRUCTION [0]

Indicate predominant land use(s) past 100m riparian.

Riparian
Maximum 10 4

5] POOL / GLIDE AND RIFFLE / RUN QUALITY
MAXIMUM DEPTH
CHANNEL WIDTH
CURRENT VELOCITY

Check ONE (ONLY!)

Check ONE (Or 2 & average)

Check ALL that apply

- ☐ > 1m [6]
☐ 0.7-<1m [4]
☐ 0.4-<0.7m [2]
☒ 0.2-<0.4m [1]
☐ < 0.2m [0]

- ☐ POOL WIDTH > RIFFLE WIDTH [2]
☐ POOL WIDTH = RIFFLE WIDTH [1]
☒ POOL WIDTH > RIFFLE WIDTH [0]

- ☐ TORRENTIAL [-1] ☒ SLOW [1]
☐ VERY FAST [1] ☐ INTERSTITIAL [-1]
☐ FAST [1] ☐ INTERMITTENT [-2]
☒ MODERATE [1] ☐ EDDIES [1]

Indicate for reach - pools and riffles.

Recreation Potential
Primary Contact
Secondary Contact
 (circle one and comment on back)

Pool / Current
 Maximum 12 3
Comments

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:

Check ONE (Or 2 & average).

☐ NO RIFFLE [metric=0]

RIFFLE DEPTH
RUN DEPTH
RIFFLE / RUN SUBSTRATE
RIFFLE / RUN EMBEDDEDNESS

- ☒ BEST AREAS > 10cm [2]
☐ BEST AREAS 5-10cm [1]
☐ BEST AREAS < 5cm [metric=0]

- ☐ MAXIMUM > 50cm [2]
☒ MAXIMUM < 50cm [1]

- ☐ STABLE (e.g., Cobble, Boulder) [2]
☒ MOD. STABLE (e.g., Large Gravel) [1]
☒ UNSTABLE (e.g., Fine Gravel, Sand) [0]

- ☐ NONE [2]
☒ LOW [1]
☐ MODERATE [0]
☐ EXTENSIVE [-1]

Riffle / Run
 Maximum 8 4.5
Comments
6] GRADIENT (6.67 ft/mi) ☒ VERY LOW - LOW [2-4]
DRAINAGE AREA (2.6 mi²) ☒ MODERATE [6-10]
☐ HIGH - VERY HIGH [10-6]

%POOL: 10 **%GLIDE:** 0
%RUN: 70 **%RIFFLE:** 20

Gradient
 Maximum 10 6

AJ SAMPLED REACH

Check ALL that apply

METHOD

- ☐ BOAT
- ☐ WADE
- ☐ L. LINE
- ☐ OTHER

STAGE

1st -sample pass- 2nd

- ☐ HIGH
- ☐ UP
- ☐ NORMAL
- ☐ LOW
- ☐ DRY

DISTANCE

- ☐ 0.5 Km
- ☐ 0.2 Km
- ☐ 0.15 Km
- ☐ 0.12 Km
- ☐ OTHER

200 feet

CLARITY

1st --sample pass-- 2nd

- ☐ < 20 cm
- ☐ 20-<40 cm
- ☐ 40-70 cm
- ☐ > 70 cm/ CTB
- ☐ SECCHI DEPTH

CANOPY

- ☐ > 85%- OPEN
- ☐ 55%-<85%
- ☐ 30%-<55%
- ☐ 10%-<30%
- ☐ <10%- CLOSED

1st _____ cm
pass
2nd _____ cm

CJ REC

BJ AESTHETIC

- ☐ NUISANCE ALGAE
- ☐ INVASIVE MACROPHYTES
- ☐ EXCESS TURBIDITY
- ☐ DISCOLORATION
- ☐ FOAM / SCUM
- ☐ OIL SHEEN
- ☐ TRASH / LITTER
- ☐ NUISANCE ODOR
- ☐ SLUDGE DEPOSITS
- ☐ CSOs/SSOs/OUTFALLS

ION

AREA DEPTH

POOL: ☐ >100ft² ☐ >3ft

DJ MAINTENANCE

PUBLIC / PRIVATE / BOTH / NA
ACTIVE / HISTORIC / BOTH / NA
YOUNG-SUCCESSION-OLD
SPRAY / SNAG / REMOVED
MODIFIED / DIPPED OUT / NA
LEVEED / ONE SIDED
RELOCATED / CUTOFFS
MOVING-BEDLOAD-STABLE
ARMOURED / SLUMPS
ISLANDS / SCOURD
IMPOUNDED / DESICCATED
FLOOD CONTROL / DRAINAGE

Circle some & COMMENT

EJ ISSUES

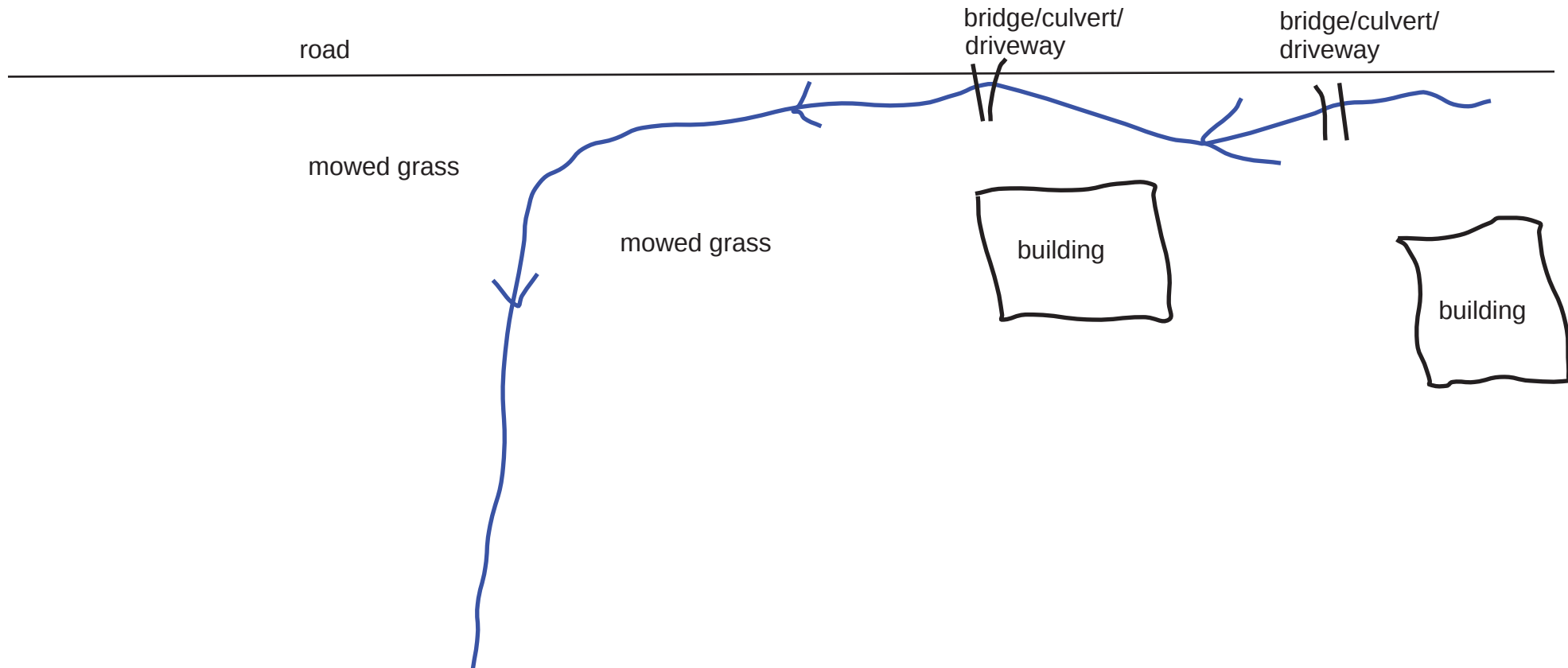
WWTP / CSO / NPDES / INDUSTRY
HARDENED / URBAN / DIRT&GRIME
CONTAMINATED / LANDFILL
BMPs-CONSTRUCTION-SEDIMENT
LOGGING / IRRIGATION / COOLING
BANK / EROSION / SURFACE
FALSE BANK / MANURE / LAGOON
WASH H₂O / TILE / H₂O TABLE
ACID / MINE / QUARRY / FLOW
NATURAL / WETLAND / STAGNANT
PARK / GOLF / LAWN / HOME
ATMOSPHERE / DATA PAUCITY

FJ MEASUREMENTS

$\bar{x}$ width 5'
 $\bar{x}$ depth
max. depth 10"
 $\bar{x}$ bankfull width
bankfull $\bar{x}$ depth
W/D ratio
bankfull max. depth
floodprone x^2 width
entrench. ratio

Le Tree:

Stream Drawing:



APPENDIX D

DELINEATED FEATURES PHOTOGRAPHS

D1– WETLANDS



PHOTOGRAPHIC RECORD

Wetlands

Client Name:

American Transmission Systems, Inc

Site Location:

East Springfield-London #2 138 kV Transmission
Line Extensions to North Titus Substation Project

Project No.

60560312

Photo Location 1**Date/Location:**

December 11, 2017

Description:

Wetland ESL-1

PEM Wetland

Category 1



Facing North



Facing East



Facing South



Facing West



Soil Pit



PHOTOGRAPHIC RECORD

Wetlands

Client Name:
American Transmission Systems, Inc

Site Location:
East Springfield-London #2 138 kV Transmission
Line Extensions to North Titus Substation Project

Project No.
60560312

Photo Location 2

Date/Location:
January 23, 2018

Description:

Wetland ESL-3

PEM Wetland

Category 1



Facing North



Facing East



Facing South



Facing West



Soil Pit



PHOTOGRAPHIC RECORD

Wetlands

Client Name:

American Transmission Systems, Inc

Site Location:

East Springfield-London #2 138 kV Transmission
Line Extensions to North Titus Substation Project

Project No.

60560312

Photo Location 3**Date/Location:**

January 23, 2018

Description:

Non-jurisdictional
Ditch



Facing South



Facing North



Soil Pit

D2 –QHEI STREAMS



PHOTOGRAPHIC RECORD STREAMS

Client Name:

American Transmission Systems, Inc

Site Location:

East Springfield-London #2 138 kV Transmission
Line Extensions to North Titus Substation Project

Project No.

60560312

Photo Location 1**Date/Location:**

December 11, 2017

Description:

Stream ESL-1

Intermittent

Fair Warmwater

QHEI stream



Facing Upstream



Facing Downstream



Substrate

D3 – PONDS



PHOTOGRAPHIC RECORD PONDS

Client Name: American Transmission Systems, Inc	Site Location: East Springfield-London #2 138 kV Transmission Line Extensions to North Titus Substation Project	Project No. 60560312
---	--	--------------------------------

Photo Location 1	
Date: December 11, 2017	
Description: Pond ESL-1 Facing Southeast	

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

2/2/2018 9:43:07 AM

in

Case No(s). 18-0086-EL-BLN

Summary: Letter of Notification for the East Springfield-London #2 Extension to North Titus Substation Project (Part 4 of 4) electronically filed by Mr. Robert J Schmidt on behalf of American Transmission Systems Inc.