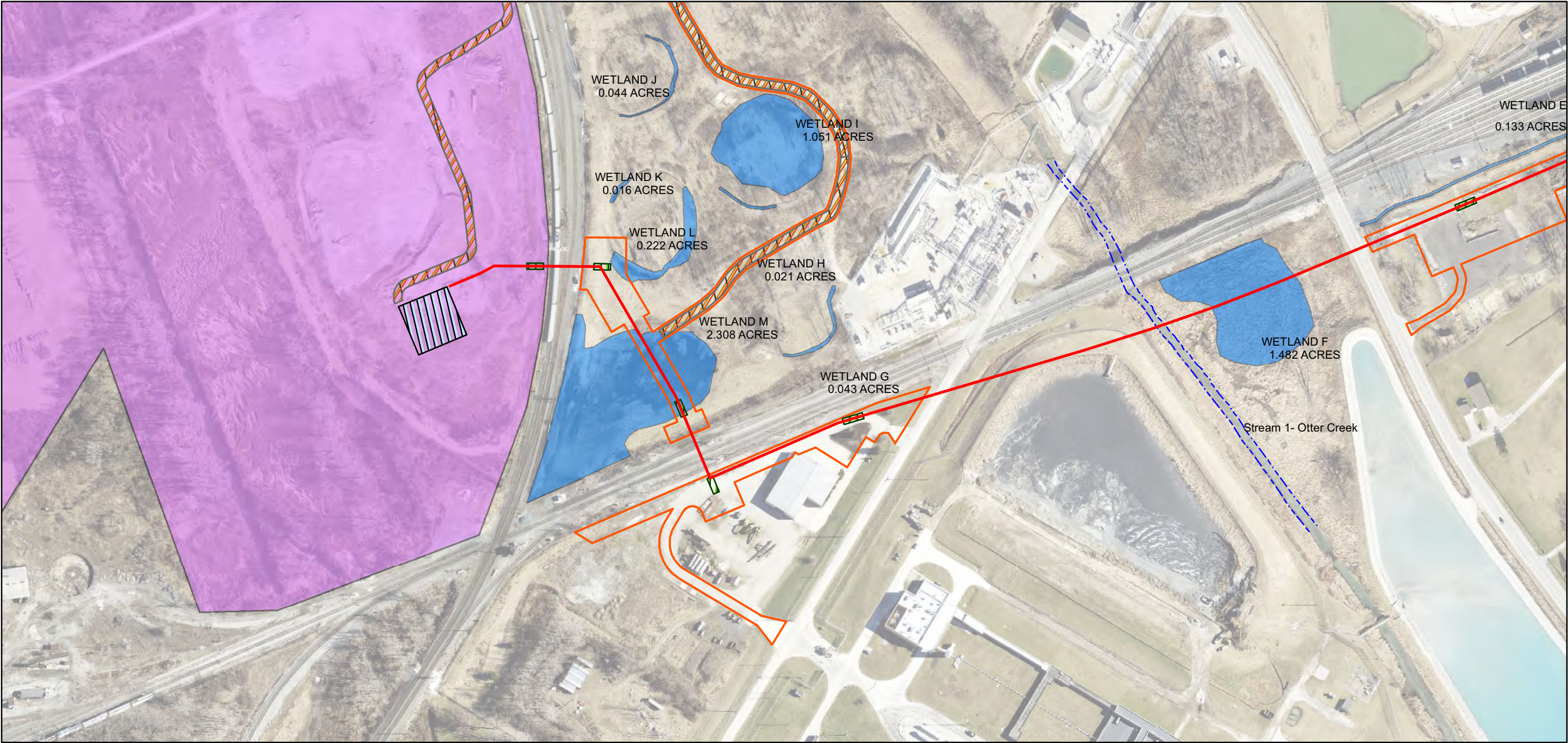



Figure 4- Environmental Survey Map






02505001,000  
Feet

Absolute Scale: 1:3,000

Utility Technologies International  
4700 Homer Ohio Lane  
Groveport, Ohio 43125  
(614) 482-8080



**Generation Pipeline  
Ironville Lateral**  
Lucas County, OH

Scale:  
1 in = 250 ft

UTI# 17-031  
Date: 08/21/2018


Design	Draft	Check
NPM	NPM	STP

Page 3 of 3

**Legend**

- Proposed
- Delineated Stream
- Proposed Bore Pit
- Proposed Pipeline Station
- Proposed Valve Tap
- Single End-User Area (Permitted by Others)

- Limits of Disturbance
- Construction
- Delineated Wetland



11x17

Document Path: P:\Client\Generation Pipeline\17031-CNR Ironville\DWG\05-Permits\17031\_GPL\_Ironville\_Environmental Figures\ArcMap\17031\_GPL\_Ironville\_Environmental Figure 4\_MultiPage.mxd



# **APPENDIX B**

## **PHOTOGRAPH LOG**





1. Wetland A – View east from data point A1.



2. Wetland A – View north from data point A1.



3. Wetland A – View south from data point A1.



4. Wetland A – View west from data point A1.



5. Wetland A – View east from data point A2.



6. 5. Wetland A – View north from data point A2.





7. Wetland A – View south from data point A2.



8. Wetland A – View west from data point A2.



9. Wetland B – View east.



10. Wetland B – View north.



11. Wetland B – View south.



12. Wetland B – View west.





**Project Name:** Generation Pipeline – Ironville Lateral Project



13. Wetland C – View east.



14. 13. Wetland C – View north.



15. 13. Wetland C – View south.



16. 13. Wetland C – View west.



17. Wetland D – View east.



18. Wetland D – View north.





**Project Name:** Generation Pipeline – Ironville Lateral Project



19. Wetland D – View south.



20. Wetland D – View west.



21. Wetland E – View west of ditch at culvert crossing under Otter Creek Road.



22. Wetland E – View east of ditch at culvert crossing under Otter Creek Road.



23. Wetland F – View northwest from Otter Creek Road.



24. Wetland F – View south along Otter Creek Road.





**Project Name:** Generation Pipeline – Ironville Lateral Project



25. Wetland G – View east.



26. Wetland H – View north of start of wetland. Note abandoned fuel tank valve.



27. Wetland H – View south.



28. Wetland J – View east along central portion of wetland.



29. Wetland K – View of central portion of wetland.



30. Wetland L – View east.





**Project Name:** Generation Pipeline – Ironville Lateral Project



31. Wetland L – View north.



32. Wetland L – View south.



33. Wetland L – View west.



34. Wetland M – View east.



35. Wetland M – View north.



36. Wetland M – View south.





**Project Name:** Generation Pipeline – Ironville Lateral Project



37. Wetland M - View west.



# **APPENDIX C**

## **WETLAND DATA FORMS**



## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: GPL - Ironville City/County: Lucas Sampling Date: April 5, 2018  
 Applicant/Owner: Generation Pipeline State: OH Sampling Point: Wet A.1  
 Investigator(s): S. Pepper/N. Daniels Section, Township, Range: Oregon  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): None  
 Slope (%): 2 Lat.: 49deg39'26.02"N Long.: 83deg27'22.22"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: Latty silty clay NWI Classification: PEM  
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? circumstances" present? \_\_\_\_\_  
 (If needed, explain any answers in remarks)

### SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u>  If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

### HYDROLOGY

<b>Primary Indicators</b> (minimum of one is required; check all that apply) _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) <u>X</u> _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living _____ Drift Deposits (B3) _____ Roots (C3) _____ Algal Mat or Crust (B4) _____ Presence of Reduced Iron (C4) _____ Iron Deposits (B5) _____ Recent Iron Reduction in Tilled _____ Inundation Visible on Aerial _____ Soils (C6) <u>X</u> _____ Imagery (B7) _____ Thin Muck Surface (C7) _____ Sparsely Vegetated Concave _____ Other (Explain in Remarks) _____ Surface (B8)	<b>Secondary Indicators</b> (minimum of two required) _____ Surface Soil Cracks (B6) _____ 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) _____ FAC-Neutral Test (D5) _____ Microtopographic Relief (D4)
<b>Field Observations:</b> Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes <u>X</u> No _____ Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	



**VEGETATION - Use scientific names of plants**
**Sampling Point:** Wet A.1

Tree Stratum					50/20 Thresholds		
Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1 <i>Celtis occidentalis</i>	5	N	FAC		Tree Stratum	1 3	
2					Sapling/Shrub Stratum	4 10	
3					Herb Stratum	15 38	
4					Woody Vine Stratum	0 0	
5							
6							
7							
8							
9							
10							
	5	= Total Cover					
Sapling/Shrub Stratum					<b>Dominance Test Worksheet</b>		
Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status		Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A)		
1 <i>Cornus racemosa</i>	20	Y	FAC		Total Number of Dominant Species Across all Strata: <u>2</u> (B)		
2					Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)		
3							
4							
5							
6							
7							
8							
9							
10							
	20	= Total Cover					
Herb Stratum					<b>Prevalence Index Worksheet</b>		
Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status		Total % Cover of:		
1 <i>Phalaris arundinacea</i>	75	Y	FACW		OBL species <u>0</u> x 1 = <u>0</u>		
2					FACW species <u>75</u> x 2 = <u>150</u>		
3					FAC species <u>25</u> x 3 = <u>75</u>		
4					FACU species <u>0</u> x 4 = <u>0</u>		
5					UPL species <u>0</u> x 5 = <u>0</u>		
6					Column totals <u>100</u> (A) <u>225</u> (B)		
7					Prevalence Index = B/A = <u>2.25</u>		
8							
9							
10							
11							
12							
13							
14							
15							
	75	= Total Cover					
Woody Vine Stratum					<b>Hydrophytic Vegetation Indicators:</b>		
Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status		Rapid test for hydrophytic vegetation		
1					<input checked="" type="checkbox"/> Dominance test is >50%		
2					<input checked="" type="checkbox"/> Prevalence index is ≤3.0*		
3					Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)		
4					Problematic hydrophytic vegetation* (explain)		
5					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
	0	= Total Cover					
Woody Vine Stratum					<b>Definitions of Vegetation Strata:</b>		
Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status		<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
1					<b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
2					<b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
3					<b>Woody vines</b> - All woody vines greater than 3.28 ft in height.		
4							
5							
	0	= Total Cover					
Remarks: (Include photo numbers here or on a separate sheet)					<b>Hydrophytic vegetation present?</b> <u>Y</u>		



**SOIL****Sampling Point:** Wet A.1

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*	Loc**		
0-16+	10YR 4/1	80					Loam	

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

\*\*Location: PL=Pore Lining, M=Matrix

**Hydric Soil Indicators:**

- |  |   |
|--|---|
| <input type="checkbox"/> Histisol (A1)                                 | <input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R, MLRA 149B</b> ) |
| <input type="checkbox"/> Histic Epipedon (A2)                          | <input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B</b> )       |
| <input type="checkbox"/> Black Histic (A3)                             | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L</b> )             |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                         | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                                 |
| <input type="checkbox"/> Stratified Layers (A5)                        | <input checked="" type="checkbox"/> Depleted Matrix (F3)                          |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)             | <input type="checkbox"/> Redox Dark Surface (F6)                                  |
| <input type="checkbox"/> Thick Dark Surface (A12)                      | <input type="checkbox"/> Depleted Dark Surface (F7)                               |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                      | <input type="checkbox"/> Redox Depressions (F8)                                   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                      |   |
| <input type="checkbox"/> Sandy Redox (S5)                              |   |
| <input type="checkbox"/> Stripped Matrix (S6)                          |   |
| <input type="checkbox"/> Dark Surface (S7) ( <b>LRR R, MLRA 149B</b> ) |   |

**Indicators for Problematic Hydric Soils:**

- |   |
|---|
| <input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR K, L, MLRA 149B</b> )       |
| <input type="checkbox"/> Coast Prairie Redox (A16) ( <b>LRR K, L, R</b> )     |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) ( <b>LRR K, L, R</b> )  |
| <input type="checkbox"/> Dark Surface (S7) ( <b>LRR K, L</b> )                |
| <input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR K, L</b> )     |
| <input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR K, L</b> )           |
| <input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR K, L, R</b> )   |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 149B</b> ) |
| <input type="checkbox"/> Mesic Spodic (TA6) ( <b>MLRA 144A, 145, 149B</b> )   |
| <input type="checkbox"/> Red Parent Material (TF2)                            |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12)                     |
| <input type="checkbox"/> Other (Explain in Remarks)                           |

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: \_\_\_\_\_

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

**Hydric soil present?** ☐ Y

Remarks:



**WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region**

Project/Site:	GPL - Ironville	City/County:	Lucas	Sampling Date:	April 5, 2018
Applicant/Owner:	Generation Pipeline	State:	OH	Sampling Point:	Wet A.2
	S. Pfeffer/N. Daniels	Section, Township, Range:	Oregon		
Landform (hillslope, terrace, etc.):		Local relief (concave, convex, none):	None		
Slope (%):	2	Lat.:	41deg39'2.59"N	Long.:	83deg27'28.47"W
		Datum:			
Soil Map Unit Name	Latty silty clay	NWI Classification:	PEM		
Are climatic/hydrologic conditions of the site typical for this time of the year?			Yes	(If no, explain in remarks)	
Are vegetation		soil		or hydrology	significantly disturbed?
Are vegetation		soil		or hydrology	naturally problematic?
(If needed, explain any answers in remarks)				Are "normal circumstances" present?	Yes

## SUMMARY OF FINDINGS

Hydrophytic vegetation present? <span style="float: right; text-align: center;"><u>Y</u></span> Hydric soil present? <span style="float: right; text-align: center;"><u>Y</u></span> <span style="float: right; text-align: center;"><u>Y</u></span>	<b>Is the sampled area within a wetland?</b> <span style="float: right; text-align: center;"><u>Y</u></span>  If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

## HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input checked="" type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)			Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)		
Field Observations: Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)			<b>Indicators of wetland hydrology present?</b> <input checked="" type="checkbox"/> Y		
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					



**VEGETATION - Use scientific names of plants**
**Sampling Point:** Wet A.2

Tree Stratum					50/20 Thresholds		
Tree Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1					Tree Stratum	0	0
2					Sapling/Shrub Stratum	0	0
3					Herb Stratum	20	50
4					Woody Vine Stratum	0	0
5							
6							
7							
8							
9							
10							
		0	= Total Cover				
Sapling/Shrub Stratum					<b>Dominance Test Worksheet</b>		
Sapling/Shrub Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status			
1					Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A)		
2					Total Number of Dominant Species Across all Strata: <u>2</u> (B)		
3					Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)		
4							
5							
6							
7							
8							
9							
10							
		0	= Total Cover				
Herb Stratum					<b>Prevalence Index Worksheet</b>		
Herb Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status			
1					Total % Cover of:		
2					OBL species <u>0</u> x 1 = <u>0</u>		
3					FACW species <u>100</u> x 2 = <u>200</u>		
4					FAC species <u>0</u> x 3 = <u>0</u>		
5					FACU species <u>0</u> x 4 = <u>0</u>		
6					UPL species <u>0</u> x 5 = <u>0</u>		
7					Column totals <u>100</u> (A) <u>200</u> (B)		
8					Prevalence Index = B/A = <u>2.00</u>		
9							
10							
11							
12							
13							
14							
15							
		100	= Total Cover				
Woody Vine Stratum					<b>Hydrophytic Vegetation Indicators:</b>		
Woody Vine Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status			
1					<input checked="" type="checkbox"/> Rapid test for hydrophytic vegetation		
2					<input checked="" type="checkbox"/> Dominance test is >50%		
3					<input checked="" type="checkbox"/> Prevalence index is ≤3.0*		
4					Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)		
5					Problematic hydrophytic vegetation* (explain)		
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
		0	= Total Cover				
Remarks: (Include photo numbers here or on a separate sheet)					<b>Definitions of Vegetation Strata:</b>		
					<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> - All woody vines greater than 3.28 ft in height.		
					<b>Hydrophytic vegetation present?</b> <u>Y</u>		



**SOIL**
**Sampling Point:** Wet A.2

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*	Loc**		
0-16+	10YR 4/1	80					Loam	

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

\*\*Location: PL=Pore Lining, M=Matrix

**Hydric Soil Indicators:**

- |  |   |
|--|---|
| <input type="checkbox"/> Histisol (A1)                                 | <input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R, MLRA 149B</b> ) |
| <input type="checkbox"/> Histic Epipedon (A2)                          | <input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B</b> )       |
| <input type="checkbox"/> Black Histic (A3)                             | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L</b> )             |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                         | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                                 |
| <input type="checkbox"/> Stratified Layers (A5)                        | <input checked="" type="checkbox"/> Depleted Matrix (F3)                          |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)             | <input type="checkbox"/> Redox Dark Surface (F6)                                  |
| <input type="checkbox"/> Thick Dark Surface (A12)                      | <input type="checkbox"/> Depleted Dark Surface (F7)                               |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                      | <input type="checkbox"/> Redox Depressions (F8)                                   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                      | <input type="checkbox"/> 50   |
| <input type="checkbox"/> Sandy Redox (S5)                              |   |
| <input type="checkbox"/> Stripped Matrix (S6)                          |   |
| <input type="checkbox"/> Dark Surface (S7) ( <b>LRR R, MLRA 149B</b> ) |   |

**Indicators for Problematic Hydric Soils:**

- |   |
|---|
| <input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR K, L, MLRA 149B</b> )       |
| <input type="checkbox"/> Coast Prairie Redox (A16) ( <b>LRR K, L, R</b> )     |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) ( <b>LRR K, L, R</b> )  |
| <input type="checkbox"/> Dark Surface (S7) ( <b>LRR K, L</b> )                |
| <input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR K, L</b> )     |
| <input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR K, L</b> )           |
| <input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR K, L, R</b> )   |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 149B</b> ) |
| <input type="checkbox"/> Mesic Spodic (TA6) ( <b>MLRA 144A, 145, 149B</b> )   |
| <input type="checkbox"/> Red Parent Material (TF2)                            |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12)                     |
| <input type="checkbox"/> Other (Explain in Remarks)                           |

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: \_\_\_\_\_

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

**Hydric soil present?** Y

Remarks:



# WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site:	GPL - Ironville	City/County:	Lucas	Sampling Date:	April 5, 2018
Applicant/Owner:	Generation Pipeline	State:	OH	Sampling Point:	Wet B
Investigator(s):	S. Pfeffer/N. Daniels	Section, Township, Range:	Oregon		
Landform (hillslope, terrace, etc.):		Local relief (concave, convex, none):	None		
Slope (%):	2	Lat.:	49deg39'26.02"N	Long.:	83deg27'22.22"W
Datum:					
Soil Map Unit Name	Latty silty clay	NWI Classification:	PEM		
Are climatic/hydrologic conditions of the site typical for this time of the year?	Yes	(If no, explain in remarks)			
Are vegetation		, soil		, or hydrology	significantly disturbed?
Are vegetation		, soil		, or hydrology	naturally problematic?
(If needed, explain any answers in remarks)				circumstances" present?	

## SUMMARY OF FINDINGS

Hydrophytic vegetation present? <span style="float: right; border-bottom: 1px solid black; width: 50px; text-align: center;">Y</span> Hydric soil present? <span style="float: right; border-bottom: 1px solid black; width: 50px; text-align: center;">Y</span> <span style="float: right; border-bottom: 1px solid black; width: 50px; text-align: center;">Y</span>	<div style="display: flex; justify-content: space-between;"> <span><b>Is the sampled area within a wetland?</b></span> <span style="border-bottom: 1px solid black; width: 50px; text-align: center;">Y</span> </div> <div style="margin-top: 10px;">             If yes, optional wetland site ID: <span style="border-bottom: 1px solid black; width: 150px;"></span> </div>
Remarks: (Explain alternative procedures here or in a separate report.)	

## HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input checked="" type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)			Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)		
Field Observations: Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)			<b>Indicators of wetland hydrology present?</b> <input checked="" type="checkbox"/> Y		
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					



**VEGETATION - Use scientific names of plants**
**Sampling Point:** Wet B

Tree Stratum					50/20 Thresholds		
Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1 <i>Celtis occidentalis</i>	5	N	FAC		1	3	
2					0	0	
3					18	45	
4					0	0	
5							
6							
7							
8							
9							
10							
				5 = Total Cover			
					<b>Dominance Test Worksheet</b>		
					Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A)		
					Total Number of Dominant Species Across all Strata: <u>1</u> (B)		
					Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)		
					<b>Prevalence Index Worksheet</b>		
					Total % Cover of:		
					OBL species <u>90</u> x 1 = <u>90</u>		
					FACW species <u>0</u> x 2 = <u>0</u>		
					FAC species <u>5</u> x 3 = <u>15</u>		
					FACU species <u>0</u> x 4 = <u>0</u>		
					UPL species <u>0</u> x 5 = <u>0</u>		
					Column totals <u>95</u> (A) <u>105</u> (B)		
					Prevalence Index = B/A = <u>1.11</u>		
					<b>Hydrophytic Vegetation Indicators:</b>		
					Rapid test for hydrophytic vegetation		
					<input checked="" type="checkbox"/> Dominance test is >50%		
					<input checked="" type="checkbox"/> Prevalence index is ≤3.0*		
					Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)		
					Problematic hydrophytic vegetation* (explain)		
					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		
					<b>Definitions of Vegetation Strata:</b>		
					<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
					<b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
					<b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
					<b>Woody vines</b> - All woody vines greater than 3.28 ft in height.		
					<b>Hydrophytic vegetation present?</b> <u>Y</u>		
Remarks: (Include photo numbers here or on a separate sheet)							



## SOIL

**Sampling Point:** Wet B

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

[illegible]

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

\*\*Location: PL=Pore Lining, M=Matrix

**Hydric Soil Indicators:**

_____ Histisol (A1)	_____ Polyvalue Below Surface
_____ Histic Epipedon (A2)	_____ (S8) ( <b>LRR R, MLRA 149B</b> )
_____ Black Histic (A3)	_____ Thin Dark Surface (S9)
_____ Hydrogen Sulfide (A4)	_____ ( <b>LRR R, MLRA 149B</b> )
_____ Stratified Layers (A5)	_____ Loamy Mucky Mineral (F1)
_____ Depleted Below Dark Surface (A11)	_____ ( <b>LRR K, L</b> )
_____ Thick Dark Surface (A12)	_____ Loamy Gleyed Matrix (F2)
_____ Sandy Mucky Mineral (S1)	_____ X Depleted Matrix (F3)
_____ Sandy Gleyed Matrix (S4)	_____ Redox Dark Surface (F6)
_____ Sandy Redox (S5)	_____ Depleted Dark Surface (F7)
_____ Stripped Matrix (S6)	_____ Redox Depressions (F8)
_____ Dark Surface (S7) ( <b>LRR R, MLRA 149B</b> )	

### Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)  
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)  
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)  
☐ Dark Surface (S7) (**LRR K, L**)  
☐ Polyvalue Below Surface (S8) (**LRR K, L**)  
☐ Thin Dark Surface (S9) (**LRR K, L**)  
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)  
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)  
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric soil present? Y

Remarks:



## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: GPL - Ironville City/County: Lucas Sampling Date: April 5, 2018  
 Applicant/Owner: Generation Pipeline State: OH Sampling Point: Wet C  
 Investigator(s): S. Pfeffer/N. Daniels Section, Township, Range: Oregon  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_  
 Slope (%): 2 Lat.: 41deg39'34.37"N Long.: 83deg27'40.58"W Datum: \_\_\_\_\_  
 Soil Map Unit Name Latty silty clay NWI Classification: PEM  
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? circumstances" present? Yes  
 (If needed, explain any answers in remarks)

### SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

### HYDROLOGY

<b>Primary Indicators</b> (minimum of one is required; check all that apply) <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> Surface Water (A1)  <input type="checkbox"/> High Water Table (A2)  <input checked="" type="checkbox"/> Saturation (A3)  <input type="checkbox"/> Water Marks (B1)  <input type="checkbox"/> Sediment Deposits (B2)  <input type="checkbox"/> Drift Deposits (B3)  <input type="checkbox"/> Algal Mat or Crust (B4)  <input type="checkbox"/> Iron Deposits (B5)  <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)  <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)         </div> <div style="width: 48%;"> <input type="checkbox"/> Water-Stained Leaves (B9)  <input type="checkbox"/> Aquatic Fauna (B13)  <input type="checkbox"/> Marl Deposits (B15)  <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)  <input type="checkbox"/> Presence of Reduced Iron (C4)  <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)  <input type="checkbox"/> Thin Muck Surface (C7)  <input type="checkbox"/> Other (Explain in Remarks)         </div> </div>	<b>Secondary Indicators</b> (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
<b>Field Observations:</b> Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes <u>X</u> No _____ Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	



**VEGETATION - Use scientific names of plants**
**Sampling Point:** Wet C

Tree Stratum					50/20 Thresholds		
Tree Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1					Tree Stratum	0	0
2					Sapling/Shrub Stratum	0	0
3					Herb Stratum	20	50
4					Woody Vine Stratum	0	0
5							
6							
7							
8							
9							
10							
		0	= Total Cover				
Sapling/Shrub Stratum					<b>Dominance Test Worksheet</b>		
					Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A)		
					Total Number of Dominant Species Across all Strata: <u>2</u> (B)		
					Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)		
Herb Stratum					<b>Prevalence Index Worksheet</b>		
					Total % Cover of:		
					OBL species <u>0</u> x 1 = <u>0</u>		
					FACW species <u>100</u> x 2 = <u>200</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>200</u> (B)		
					Prevalence Index = B/A = <u>2.00</u>		
Herb Stratum					<b>Hydrophytic Vegetation Indicators:</b>		
					<u>  </u> Rapid test for hydrophytic vegetation		
					<u>X</u> Dominance test is >50%		
					<u>X</u> Prevalence index is ≤3.0*		
					Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)		
					Problematic hydrophytic vegetation* (explain)		
					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		
Herb Stratum					<b>Definitions of Vegetation Strata:</b>		
					<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
					<b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
					<b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
					<b>Woody vines</b> - All woody vines greater than 3.28 ft in height.		
Woody Vine Stratum					<b>Hydrophytic vegetation present?</b> <u>Y</u>		
		0	= Total Cover				

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



## SOIL

**Sampling Point:** Wet C

[illegible]



## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: GPL - Ironville City/County: Lucas Sampling Date: April 5, 2018  
 Applicant/Owner: Generation Pipeline State: OH Sampling Point: Wet D  
 Investigator(s): S. Pfeffer/N. Daniels Section, Township, Range: Oregon  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_  
 Slope (%): 2 Lat.: 41deg39'46.82"N Long.: 83deg28'5.90"W Datum: \_\_\_\_\_  
 Soil Map Unit Name Fulton silty clay loam NWI Classification: PEM  
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? circumstances" present? Yes  
 (If needed, explain any answers in remarks)

### SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

### HYDROLOGY

<b>Primary Indicators</b> (minimum of one is required; check all that apply) <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> Surface Water (A1)  <input type="checkbox"/> High Water Table (A2)  <input checked="" type="checkbox"/> Saturation (A3)  <input type="checkbox"/> Water Marks (B1)  <input type="checkbox"/> Sediment Deposits (B2)  <input type="checkbox"/> Drift Deposits (B3)  <input type="checkbox"/> Algal Mat or Crust (B4)  <input type="checkbox"/> Iron Deposits (B5)  <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)  <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)         </div> <div style="width: 48%;"> <input type="checkbox"/> Water-Stained Leaves (B9)  <input type="checkbox"/> Aquatic Fauna (B13)  <input type="checkbox"/> Marl Deposits (B15)  <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)  <input type="checkbox"/> Presence of Reduced Iron (C4)  <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)  <input type="checkbox"/> Thin Muck Surface (C7)  <input type="checkbox"/> Other (Explain in Remarks)         </div> </div>	<b>Secondary Indicators</b> (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
<b>Field Observations:</b> Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes <u>X</u> No _____ Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	



**VEGETATION - Use scientific names of plants**
**Sampling Point:** Wet D

Tree Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Sapling/Shrub Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2	<i>Cornus alba</i>	20	Y	FACW
3				
4				
5				
6				
7				
8				
9				
10				
		20 = Total Cover		

Herb Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Phalaris arundinacea</i>	80	Y	FACW
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		80 = Total Cover		

Woody Vine Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0 = Total Cover		

**50/20 Thresholds**

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	4	10
Herb Stratum	16	40
Woody Vine Stratum	0	0

**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: 100.00% (A/B)

**Prevalence Index Worksheet**  
 Total % Cover of:  
 OBL species 0 x 1 = 0  
 FACW species 100 x 2 = 200  
 FAC species 0 x 3 = 0  
 FACU species 0 x 4 = 0  
 UPL species 0 x 5 = 0  
 Column totals 100 (A) 200 (B)  
 Prevalence Index = B/A = 2.00

**Hydrophytic Vegetation Indicators:**  
☒ Rapid test for hydrophytic vegetation  
☒ Dominance test is >50%  
☒ Prevalence index is ≤3.0\*  
 Morphological adaptations\* (provide supporting data in Remarks or on a separate sheet)  
 Problematic hydrophytic vegetation\* (explain)  
\*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Vegetation Strata:**  
**Tree** - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  
**Sapling/shrub** - Woody plants less than 3 in. DBH and greater than 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?** Y

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



## SOIL

**Sampling Point:** Wet D

[illegible]



## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: GPL - Ironville City/County: Lucas Sampling Date: April 5, 2018  
 Applicant/Owner: Generation Pipeline State: OH Sampling Point: Wet G  
 Investigator(s): S. Pepper/N. Daniels Section, Township, Range: Oregon  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): \_\_\_\_\_  
 Slope (%): 2 Lat.: 41deg40'4.48"N Long.: 83deg28'24.55"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: Fulton silty clay loam NWI Classification: PEM  
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? circumstances" present? Yes  
 (If needed, explain any answers in remarks)

### SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u>  If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)  <p style="text-align: center;">This is a man-made area located in an abandoned petroleum storage yard.</p>	

### HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> Surface Water (A1)  <input type="checkbox"/> High Water Table (A2)  <input checked="" type="checkbox"/> Saturation (A3)  <input type="checkbox"/> Water Marks (B1)  <input type="checkbox"/> Sediment Deposits (B2)  <input type="checkbox"/> Drift Deposits (B3)  <input type="checkbox"/> Algal Mat or Crust (B4)  <input type="checkbox"/> Iron Deposits (B5)  <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)  <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)         </div> <div style="width: 48%;"> <input type="checkbox"/> Water-Stained Leaves (B9)  <input type="checkbox"/> Aquatic Fauna (B13)  <input type="checkbox"/> Marl Deposits (B15)  <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)  <input type="checkbox"/> Presence of Reduced Iron (C4)  <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)  <input type="checkbox"/> Thin Muck Surface (C7)  <input type="checkbox"/> Other (Explain in Remarks)         </div> </div>	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u>X</u> No _____ Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes <u>X</u> No _____ Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  <div style="height: 40px; border: 1px solid black;"></div>	
Remarks:  <div style="height: 40px; border: 1px solid black;"></div>	



**VEGETATION - Use scientific names of plants**
**Sampling Point:** Wet G

Tree Stratum					50/20 Thresholds		
Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1 <i>Populus deltoides</i>	10	Y	FAC		2	5	
2					0	0	
3					0	0	
4					0	0	
5							
6							
7							
8							
9							
10							
	10 = Total Cover						

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
	0 = Total Cover						

Herb Stratum					Prevalence Index Worksheet		
Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
	0 = Total Cover						

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
	0 = Total Cover						

Remarks: (Include photo numbers here or on a separate sheet)					Definitions of Vegetation Strata:		
Depressional wetland primarily void of vegetation.					<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
					<b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
					<b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
					<b>Woody vines</b> - All woody vines greater than 3.28 ft in height.		
					<b>Hydrophytic vegetation present?</b> <u>Y</u>		



**SOIL**
**Sampling Point:** Wet G

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*	Loc**		
0-16+	10YR 4/1	80			RM	M	Loam	

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

\*\*Location: PL=Pore Lining, M=Matrix

**Hydric Soil Indicators:**

- |  |   |
|--|---|
| <input type="checkbox"/> Histisol (A1)                                 | <input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R, MLRA 149B</b> ) |
| <input type="checkbox"/> Histic Epipedon (A2)                          | <input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B</b> )       |
| <input type="checkbox"/> Black Histic (A3)                             | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L</b> )             |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                         | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                                 |
| <input type="checkbox"/> Stratified Layers (A5)                        | <input checked="" type="checkbox"/> Depleted Matrix (F3)                          |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)             | <input type="checkbox"/> Redox Dark Surface (F6)                                  |
| <input type="checkbox"/> Thick Dark Surface (A12)                      | <input type="checkbox"/> Depleted Dark Surface (F7)                               |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                      | <input type="checkbox"/> Redox Depressions (F8)                                   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                      |   |
| <input type="checkbox"/> Sandy Redox (S5)                              |   |
| <input type="checkbox"/> Stripped Matrix (S6)                          |   |
| <input type="checkbox"/> Dark Surface (S7) ( <b>LRR R, MLRA 149B</b> ) |   |

**Indicators for Problematic Hydric Soils:**

- |   |
|---|
| <input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR K, L, MLRA 149B</b> )       |
| <input type="checkbox"/> Coast Prairie Redox (A16) ( <b>LRR K, L, R</b> )     |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) ( <b>LRR K, L, R</b> )  |
| <input type="checkbox"/> Dark Surface (S7) ( <b>LRR K, L</b> )                |
| <input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR K, L</b> )     |
| <input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR K, L</b> )           |
| <input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR K, L, R</b> )   |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 149B</b> ) |
| <input type="checkbox"/> Mesic Spodic (TA6) ( <b>MLRA 144A, 145, 149B</b> )   |
| <input type="checkbox"/> Red Parent Material (TF2)                            |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12)                     |
| <input type="checkbox"/> Other (Explain in Remarks)                           |

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: \_\_\_\_\_

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

**Hydric soil present?**   Y  

Remarks:

Are disturbed in the past.



## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: GPL - Ironville City/County: Lucas Sampling Date: April 5, 2018  
 Applicant/Owner: Generation Pipeline State: OH Sampling Point: Wet H  
 Investigator(s): S. Pfeffer/N. Daniels Section, Township, Range: Oregon  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): \_\_\_\_\_  
 Slope (%): 2 Lat.: 41deg40'4.48"N Long.: 83deg28'24.55"W Datum: \_\_\_\_\_  
 Soil Map Unit Name Fulton silty clay loam NWI Classification: PEM  
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? circumstances" present? Yes  
 (If needed, explain any answers in remarks)

### SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)  <p style="text-align: center;">This is a man-made area located in an abandoned petroleum storage yard.</p>	

### HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> Surface Water (A1)  <input type="checkbox"/> High Water Table (A2)  <input checked="" type="checkbox"/> Saturation (A3)  <input type="checkbox"/> Water Marks (B1)  <input type="checkbox"/> Sediment Deposits (B2)  <input type="checkbox"/> Drift Deposits (B3)  <input type="checkbox"/> Algal Mat or Crust (B4)  <input type="checkbox"/> Iron Deposits (B5)  <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)  <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)         </div> <div style="width: 48%;"> <input type="checkbox"/> Water-Stained Leaves (B9)  <input type="checkbox"/> Aquatic Fauna (B13)  <input type="checkbox"/> Marl Deposits (B15)  <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)  <input type="checkbox"/> Presence of Reduced Iron (C4)  <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)  <input type="checkbox"/> Thin Muck Surface (C7)  <input type="checkbox"/> Other (Explain in Remarks)         </div> </div>	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u>X</u> No _____ Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes <u>X</u> No _____ Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	



**VEGETATION - Use scientific names of plants**
**Sampling Point:** Wet H

Tree Stratum					50/20 Thresholds					
Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status		20%	50%				
1 <i>Populus deltoides</i>	10	Y	FAC	Tree Stratum	2	5				
2				Sapling/Shrub Stratum	0	0				
3				Herb Stratum	0	0				
4				Woody Vine Stratum	0	0				
5				<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)						
6										
7										
8										
9										
10	10 = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>10</u> (A) <u>30</u> (B) Prevalence Index = B/A = <u>3.00</u>						
<b>Sapling/Shrub Stratum</b> Plot Size ( ) Absolute % Cover Dominant Species Indicator Status 1 2 3 4 5 6 7 8 9 10 0 = Total Cover										
<b>Herb Stratum</b> Plot Size ( ) Absolute % Cover Dominant Species Indicator Status 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 0 = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic						
				<b>Woody Vine Stratum</b> Plot Size ( ) Absolute % Cover Dominant Species Indicator Status 1 2 3 4 5 0 = Total Cover				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. <b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> - All woody vines greater than 3.28 ft in height.		
				<b>Hydrophytic vegetation present?</b> <u>Y</u>						

Remarks: (Include photo numbers here or on a separate sheet)  
 Depressional wetland primarily void of vegetation.



## SOIL

**Sampling Point:** Wet H

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

[illegible]

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

\*\*Location: PL=Pore Lining, M=Matrix

### Hydric Soil Indicators:

<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> (S8) ( <b>LRR R, MLRA 149B</b> )
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> ( <b>LRR R, MLRA 149B</b> )
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> ( <b>LRR K, L</b> )
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Dark Surface (S7) ( <b>LRR R, MLRA 149B</b> )	

### Indicators for Problematic Hydric Soils:

\_\_\_ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)  
 \_\_\_ Coast Prairie Redox (A16) (**LRR K, L, R**)  
 \_\_\_ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)  
 \_\_\_ Dark Surface (S7) (**LRR K, L**)  
 \_\_\_ Polyvalue Below Surface (S8) (**LRR K, L**)  
 \_\_\_ Thin Dark Surface (S9) (**LRR K, L**)  
 \_\_\_ Iron-Manganese Masses (F12) (**LRR K, L, R**)  
 \_\_\_ Piedmont Floodplain Soils (F19) (**MLRA 149B**)  
 \_\_\_ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)  
 \_\_\_ Red Parent Material (TF2)  
 \_\_\_ Very Shallow Dark Surface (TF12)  
 \_\_\_ Other (Explain in Remarks)

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric soil present? Y

Remarks:

Are disturbed in the past.



## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: GPL - Ironville City/County: Lucas Sampling Date: April 5, 2018  
 Applicant/Owner: Generation Pipeline State: OH Sampling Point: Wet I  
 Investigator(s): S. Pepper/N. Daniels Section, Township, Range: Oregon  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): \_\_\_\_\_  
 Slope (%): 2 Lat.: 41deg40'4.48"N Long.: 83deg28'24.55"W Datum: \_\_\_\_\_  
 Soil Map Unit Name Fulton silty clay loam NWI Classification: PEM  
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? circumstances" present? Yes  
 (If needed, explain any answers in remarks)

### SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)  <p style="text-align: center;">This is a man-made area located in an abandoned petroleum storage yard.</p>	

### HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> Surface Water (A1)  <input type="checkbox"/> High Water Table (A2)  <input checked="" type="checkbox"/> Saturation (A3)  <input type="checkbox"/> Water Marks (B1)  <input type="checkbox"/> Sediment Deposits (B2)  <input type="checkbox"/> Drift Deposits (B3)  <input type="checkbox"/> Algal Mat or Crust (B4)  <input type="checkbox"/> Iron Deposits (B5)  <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)  <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)         </div> <div style="width: 48%;"> <input type="checkbox"/> Water-Stained Leaves (B9)  <input type="checkbox"/> Aquatic Fauna (B13)  <input type="checkbox"/> Marl Deposits (B15)  <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)  <input type="checkbox"/> Presence of Reduced Iron (C4)  <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)  <input type="checkbox"/> Thin Muck Surface (C7)  <input type="checkbox"/> Other (Explain in Remarks)         </div> </div>	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u>X</u> No _____ Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes <u>X</u> No _____ Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  <hr/>	
Remarks:  <hr/>	



**VEGETATION - Use scientific names of plants**
**Sampling Point:** Wet I

Tree Stratum					50/20 Thresholds		
Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1 <i>Populus deltoides</i>	10	Y	FAC	Tree Stratum	2	5	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	0	0	
4				Woody Vine Stratum	0	0	
5				<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)			
6							
7							
8							
9							
10	10 = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>10</u> (A) <u>30</u> (B) Prevalence Index = B/A = <u>3.00</u>			
Sapling/Shrub Stratum					<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) <small>*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic</small>		
1							
2							
3							
4							
5				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. <b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> - All woody vines greater than 3.28 ft in height.			
6							
7							
8							
9							
10	0 = Total Cover			<b>Hydrophytic vegetation present?</b> <u>Y</u>			
Herb Stratum							
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15	0 = Total Cover						
Woody Vine Stratum							
1							
2							
3							
4							
5							
	0 = Total Cover						

Remarks: (Include photo numbers here or on a separate sheet)  
 Anthropogenically created depressional wetland primarily void of vegetation.



**SOIL**

Sampling Point: Wet I

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*	Loc**		
0-16+	10YR 4/1	80			RM	M	Loam	

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

\*\*Location: PL=Pore Lining, M=Matrix

**Hydric Soil Indicators:**

- |  |   |
|--|---|
| <input type="checkbox"/> Histisol (A1)                                 | <input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R, MLRA 149B</b> ) |
| <input type="checkbox"/> Histic Epipedon (A2)                          | <input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B</b> )       |
| <input type="checkbox"/> Black Histic (A3)                             | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L</b> )             |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                         | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                                 |
| <input type="checkbox"/> Stratified Layers (A5)                        | <input checked="" type="checkbox"/> Depleted Matrix (F3)                          |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)             | <input type="checkbox"/> Redox Dark Surface (F6)                                  |
| <input type="checkbox"/> Thick Dark Surface (A12)                      | <input type="checkbox"/> Depleted Dark Surface (F7)                               |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                      | <input type="checkbox"/> Redox Depressions (F8)                                   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                      |   |
| <input type="checkbox"/> Sandy Redox (S5)                              |   |
| <input type="checkbox"/> Stripped Matrix (S6)                          |   |
| <input type="checkbox"/> Dark Surface (S7) ( <b>LRR R, MLRA 149B</b> ) |   |

**Indicators for Problematic Hydric Soils:**

- |   |
|---|
| <input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR K, L, MLRA 149B</b> )       |
| <input type="checkbox"/> Coast Prairie Redox (A16) ( <b>LRR K, L, R</b> )     |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) ( <b>LRR K, L, R</b> )  |
| <input type="checkbox"/> Dark Surface (S7) ( <b>LRR K, L</b> )                |
| <input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR K, L</b> )     |
| <input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR K, L</b> )           |
| <input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR K, L, R</b> )   |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 149B</b> ) |
| <input type="checkbox"/> Mesic Spodic (TA6) ( <b>MLRA 144A, 145, 149B</b> )   |
| <input type="checkbox"/> Red Parent Material (TF2)                            |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12)                     |
| <input type="checkbox"/> Other (Explain in Remarks)                           |

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: \_\_\_\_\_

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

Hydric soil present? Y

Remarks:

Area disturbed in the past.



## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: GPL - Ironville City/County: Lucas Sampling Date: April 5, 2018  
 Applicant/Owner: Generation Pipeline State: OH Sampling Point: Wet J  
 Investigator(s): S. Pfeffer/N. Daniels Section, Township, Range: Oregon  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): \_\_\_\_\_  
 Slope (%): 2 Lat.: 41deg40'4.48"N Long.: 83deg28'24.55"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: Fulton silty clay loam NWI Classification: PEM  
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? circumstances" present? Yes  
 (If needed, explain any answers in remarks)

### SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u>  If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)  <p style="text-align: center;">This is a man-made area located in an abandoned petroleum storage yard.</p>	

### HYDROLOGY

<b>Primary Indicators</b> (minimum of one is required; check all that apply) <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> Surface Water (A1)  <input type="checkbox"/> High Water Table (A2)  <input checked="" type="checkbox"/> Saturation (A3)  <input type="checkbox"/> Water Marks (B1)  <input type="checkbox"/> Sediment Deposits (B2)  <input type="checkbox"/> Drift Deposits (B3)  <input type="checkbox"/> Algal Mat or Crust (B4)  <input type="checkbox"/> Iron Deposits (B5)  <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)  <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)         </div> <div style="width: 48%;"> <input type="checkbox"/> Water-Stained Leaves (B9)  <input type="checkbox"/> Aquatic Fauna (B13)  <input type="checkbox"/> Marl Deposits (B15)  <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)  <input type="checkbox"/> Presence of Reduced Iron (C4)  <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)  <input type="checkbox"/> Thin Muck Surface (C7)  <input type="checkbox"/> Other (Explain in Remarks)         </div> </div>	<b>Secondary Indicators</b> (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
<b>Field Observations:</b> Surface water present? Yes <u>X</u> No _____ Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes <u>X</u> No _____ Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	



**VEGETATION - Use scientific names of plants**
**Sampling Point:** Wet J

Tree Stratum					50/20 Thresholds		
Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1 <i>Populus deltoides</i>	10	Y	FAC		2	5	
2					0	0	
3					0	0	
4					0	0	
5							
6							
7							
8							
9							
10							
	10 = Total Cover						

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
	0 = Total Cover						

Herb Stratum					Prevalence Index Worksheet		
Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
	0 = Total Cover						

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
	0 = Total Cover						

Remarks: (Include photo numbers here or on a separate sheet)					Definitions of Vegetation Strata:		
Depressional wetland primarily void of vegetation.					<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
					<b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
					<b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
					<b>Woody vines</b> - All woody vines greater than 3.28 ft in height.		
					<b>Hydrophytic vegetation present?</b> <u>Y</u>		



## SOIL

**Sampling Point:** Wet J

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

[illegible]

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

\*\*Location: PL=Pore Lining, M=Matrix

### Hydric Soil Indicators:

<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R, MLRA 149B</b> )
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B</b> )
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L</b> )
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7) ( <b>LRR R, MLRA 149B</b> )	

### Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)  
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)  
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)  
☐ Dark Surface (S7) (**LRR K, L**)  
☐ Polyvalue Below Surface (S8) (**LRR K, L**)  
☐ Thin Dark Surface (S9) (**LRR K, L**)  
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)  
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)  
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric soil present? Y

Remarks:

Are disturbed in the past.



## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: GPL - Ironville City/County: Lucas Sampling Date: April 5, 2018  
 Applicant/Owner: Generation Pipeline State: OH Sampling Point: Wet K  
 Investigator(s): S. Pepper/N. Daniels Section, Township, Range: Oregon  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): \_\_\_\_\_  
 Slope (%): 2 Lat.: 41deg40'4.48"N Long.: 83deg28'24.55"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: Fulton silty clay loam NWI Classification: PEM  
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? circumstances" present? Yes  
 (If needed, explain any answers in remarks)

### SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u>  If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)  <p style="text-align: center;">This is a man-made area located in an abandoned petroleum storage yard.</p>	

### HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> Surface Water (A1)  <input type="checkbox"/> High Water Table (A2)  <input checked="" type="checkbox"/> Saturation (A3)  <input type="checkbox"/> Water Marks (B1)  <input type="checkbox"/> Sediment Deposits (B2)  <input type="checkbox"/> Drift Deposits (B3)  <input type="checkbox"/> Algal Mat or Crust (B4)  <input type="checkbox"/> Iron Deposits (B5)  <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)  <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)         </div> <div style="width: 48%;"> <input type="checkbox"/> Water-Stained Leaves (B9)  <input type="checkbox"/> Aquatic Fauna (B13)  <input type="checkbox"/> Marl Deposits (B15)  <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)  <input type="checkbox"/> Presence of Reduced Iron (C4)  <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)  <input type="checkbox"/> Thin Muck Surface (C7)  <input type="checkbox"/> Other (Explain in Remarks)         </div> </div>	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u>X</u> No _____ Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes <u>X</u> No _____ Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  <div style="height: 40px; border: 1px solid black;"></div>	
Remarks:  <div style="height: 40px; border: 1px solid black;"></div>	



**Sampling Point:** Wet K

2021 Wetland Site Data					Sampling Form																																																																																							
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Remarks: (Include photo numbers here or on a separate sheet)  
 Depressional wetland primarily void of vegetation.



## SOIL

**Sampling Point:** Wet K

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

[illegible]

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

\*\*Location: PL=Pore Lining, M=Matrix

### Hydric Soil Indicators:

- \_\_\_\_\_ Histisol (A1)
- \_\_\_\_\_ Histic Epipedon (A2)
- \_\_\_\_\_ Black Histic (A3)
- \_\_\_\_\_ Hydrogen Sulfide (A4)
- \_\_\_\_\_ Stratified Layers (A5)
- \_\_\_\_\_ Depleted Below Dark Surface (A11)
- \_\_\_\_\_ Thick Dark Surface (A12)
- \_\_\_\_\_ Sandy Mucky Mineral (S1)
- \_\_\_\_\_ Sandy Gleyed Matrix (S4)
- \_\_\_\_\_ Sandy Redox (S5)
- \_\_\_\_\_ Stripped Matrix (S6)
- \_\_\_\_\_ Dark Surface (S7) (**LRR R, MLRA 149B**)

Polyvalue Below Surface  
 (S8) (**LRR R, MLRA 149B**)  
 Thin Dark Surface (S9)  
 (**LRR R, MLRA 149B**)  
 Loamy Mucky Mineral (F1)  
 (**LRR K, L**)  
 Loamy Gleyed Matrix (F2)  
 X Depleted Matrix (F3)  
 Redox Dark Surface (F6)  
 Depleted Dark Surface (F7)  
 Redox Depressions (F8)

### Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)  
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)  
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)  
☐ Dark Surface (S7) (**LRR K, L**)  
☐ Polyvalue Below Surface (S8) (**LRR K, L**)  
☐ Thin Dark Surface (S9) (**LRR K, L**)  
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)  
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)  
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric soil present? Y

Remarks:

Are disturbed in the past.



## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: GPL - Ironville City/County: Lucas Sampling Date: April 5, 2018  
 Applicant/Owner: Generation Pipeline State: OH Sampling Point: Wet L  
 Investigator(s): S. Pepper/N. Daniels Section, Township, Range: Oregon  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): \_\_\_\_\_  
 Slope (%): 2 Lat.: 41deg40'4.48"N Long.: 83deg28'24.55"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: Fulton silty clay loam NWI Classification: PEM  
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? circumstances" present? Yes  
 (If needed, explain any answers in remarks)

### SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u>  If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)  <p style="text-align: center;">This is a man-made area located in an abandoned petroleum storage yard.</p>	

### HYDROLOGY

<b>Primary Indicators</b> (minimum of one is required; check all that apply) <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> Surface Water (A1)  <input type="checkbox"/> High Water Table (A2)  <input checked="" type="checkbox"/> Saturation (A3)  <input type="checkbox"/> Water Marks (B1)  <input type="checkbox"/> Sediment Deposits (B2)  <input type="checkbox"/> Drift Deposits (B3)  <input type="checkbox"/> Algal Mat or Crust (B4)  <input type="checkbox"/> Iron Deposits (B5)  <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)  <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)         </div> <div style="width: 48%;"> <input type="checkbox"/> Water-Stained Leaves (B9)  <input type="checkbox"/> Aquatic Fauna (B13)  <input type="checkbox"/> Marl Deposits (B15)  <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)  <input type="checkbox"/> Presence of Reduced Iron (C4)  <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)  <input type="checkbox"/> Thin Muck Surface (C7)  <input type="checkbox"/> Other (Explain in Remarks)         </div> </div>	<b>Secondary Indicators</b> (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
<b>Field Observations:</b> Surface water present? Yes <u>X</u> No _____ Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes <u>X</u> No _____ Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  <div style="height: 40px; border: 1px solid black;"></div>	
Remarks:  <div style="height: 40px; border: 1px solid black;"></div>	



**Sampling Point:** Wet L

50/20 Thresholds					Sampling Area	
Tree Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status	20%	50%
1 <i>Populus deltoides</i>		10	Y	FAC	2	5
2					0	0
3					0	0
4					0	0
5						
6						
7						
8						
9						
10		10 = Total Cover				
Sapling/Shrub Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status		
1						
2						
3						
4						
5						
6						
7						
8						
9						
10		0 = Total Cover				
Herb Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status		
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15		0 = Total Cover				
Woody Vine Stratum	Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status		
1						
2						
3						
4						
5		0 = Total Cover				

**50/20 Thresholds**

Tree Stratum 20% 50%

Sapling/Shrub Stratum 0 0

Herb Stratum 0 0

Woody Vine Stratum 0 0

**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: 100.00% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

OBL species 0 x 1 = 0

FACW species 0 x 2 = 0

FAC species 10 x 3 = 30

FACU species 0 x 4 = 0

UPL species 0 x 5 = 0

Column totals 10 (A) 30 (B)

Prevalence Index = B/A = 3.00

**Hydrophytic Vegetation Indicators:**

Rapid test for hydrophytic vegetation

X Dominance test is >50%

X Prevalence index is ≤3.0\*

Morphological adaptations\* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation\* (explain)

\*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Definitions of Vegetation Strata:**

**Tree** - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** - Woody plants less than 3 in. DBH and greater than 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?** Y

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

Depressional wetland primarily void of vegetation.



**SOIL****Sampling Point:** Wet L

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*	Loc**		
0-16+	10YR 4/1	80			RM	M	Loam	

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

\*\*Location: PL=Pore Lining, M=Matrix

**Hydric Soil Indicators:**

- |  |   |
|--|---|
| <input type="checkbox"/> Histisol (A1)                                 | <input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R, MLRA 149B</b> ) |
| <input type="checkbox"/> Histic Epipedon (A2)                          | <input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B</b> )       |
| <input type="checkbox"/> Black Histic (A3)                             | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L</b> )             |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                         | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                                 |
| <input type="checkbox"/> Stratified Layers (A5)                        | <input checked="" type="checkbox"/> Depleted Matrix (F3)                          |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)             | <input type="checkbox"/> Redox Dark Surface (F6)                                  |
| <input type="checkbox"/> Thick Dark Surface (A12)                      | <input type="checkbox"/> Depleted Dark Surface (F7)                               |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                      | <input type="checkbox"/> Redox Depressions (F8)                                   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                      |   |
| <input type="checkbox"/> Sandy Redox (S5)                              |   |
| <input type="checkbox"/> Stripped Matrix (S6)                          |   |
| <input type="checkbox"/> Dark Surface (S7) ( <b>LRR R, MLRA 149B</b> ) |   |

**Indicators for Problematic Hydric Soils:**

- |   |
|---|
| <input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR K, L, MLRA 149B</b> )       |
| <input type="checkbox"/> Coast Prairie Redox (A16) ( <b>LRR K, L, R</b> )     |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) ( <b>LRR K, L, R</b> )  |
| <input type="checkbox"/> Dark Surface (S7) ( <b>LRR K, L</b> )                |
| <input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR K, L</b> )     |
| <input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR K, L</b> )           |
| <input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR K, L, R</b> )   |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 149B</b> ) |
| <input type="checkbox"/> Mesic Spodic (TA6) ( <b>MLRA 144A, 145, 149B</b> )   |
| <input type="checkbox"/> Red Parent Material (TF2)                            |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12)                     |
| <input type="checkbox"/> Other (Explain in Remarks)                           |

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: \_\_\_\_\_

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

**Hydric soil present?**   Y  

Remarks:

Are disturbed in the past.



## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: GPL - Ironville City/County: Lucas Sampling Date: April 5, 2018  
 Applicant/Owner: Generation Pipeline State: OH Sampling Point: Wet M  
 Investigator(s): S. Pepper/N. Daniels Section, Township, Range: Oregon  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): \_\_\_\_\_  
 Slope (%): 2 Lat.: 41deg40'4.48"N Long.: 83deg28'24.55"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: Fulton silty clay loam NWI Classification: PEM  
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? circumstances" present? Yes  
 (If needed, explain any answers in remarks)

### SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u>  If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)  <p style="text-align: center;">This is a man-made area located in an abandoned petroleum storage yard.</p>	

### HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> Surface Water (A1)  <input type="checkbox"/> High Water Table (A2)  <input checked="" type="checkbox"/> Saturation (A3)  <input type="checkbox"/> Water Marks (B1)  <input type="checkbox"/> Sediment Deposits (B2)  <input type="checkbox"/> Drift Deposits (B3)  <input type="checkbox"/> Algal Mat or Crust (B4)  <input type="checkbox"/> Iron Deposits (B5)  <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)  <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)         </div> <div style="width: 48%;"> <input type="checkbox"/> Water-Stained Leaves (B9)  <input type="checkbox"/> Aquatic Fauna (B13)  <input type="checkbox"/> Marl Deposits (B15)  <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)  <input type="checkbox"/> Presence of Reduced Iron (C4)  <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)  <input type="checkbox"/> Thin Muck Surface (C7)  <input type="checkbox"/> Other (Explain in Remarks)         </div> </div>	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u>X</u> No _____ Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes <u>X</u> No _____ Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  <div style="height: 40px; border: 1px solid black;"></div>	
Remarks:  <div style="height: 40px; border: 1px solid black;"></div>	



**VEGETATION - Use scientific names of plants**
**Sampling Point:** Wet M

Tree Stratum					50/20 Thresholds		
Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1 <i>Populus deltoides</i>	10	Y	FAC		2	5	
2					0	0	
3					0	0	
4					0	0	
5							
6							
7							
8							
9							
10							
	10 = Total Cover						

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status				
1					Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A)		
2					Total Number of Dominant Species Across all Strata: <u>1</u> (B)		
3					Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)		
4							
5							
6							
7							
8							
9							
10							
	0 = Total Cover						

Herb Stratum					Prevalence Index Worksheet		
Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status				
1					Total % Cover of:		
2					OBL species <u>0</u> x 1 = <u>0</u>		
3					FACW species <u>0</u> x 2 = <u>0</u>		
4					FAC species <u>10</u> x 3 = <u>30</u>		
5					FACU species <u>0</u> x 4 = <u>0</u>		
6					UPL species <u>0</u> x 5 = <u>0</u>		
7					Column totals <u>10</u> (A) <u>30</u> (B)		
8					Prevalence Index = B/A = <u>3.00</u>		
9							
10							
11							
12							
13							
14							
15							
	0 = Total Cover						

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status				
1					Rapid test for hydrophytic vegetation		
2					<input checked="" type="checkbox"/> Dominance test is >50%		
3					<input checked="" type="checkbox"/> Prevalence index is ≤3.0*		
4					Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)		
5					Problematic hydrophytic vegetation* (explain)		
					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		

Woody Vine Stratum					Definitions of Vegetation Strata:		
Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status				
1					<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
2					<b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
3					<b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
4					<b>Woody vines</b> - All woody vines greater than 3.28 ft in height.		
5							
	0 = Total Cover						

Woody Vine Stratum					Hydrophytic vegetation present?		
Plot Size ( )	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
	0 = Total Cover				<u>Y</u>		

Remarks: (Include photo numbers here or on a separate sheet)  
 Depressional wetland primarily void of vegetation.



## SOIL

**Sampling Point:** Wet M

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

[illegible]

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

\*\*Location: PL=Pore Lining, M=Matrix

### Hydric Soil Indicators:

<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R, MLRA 149B</b> )
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B</b> )
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L</b> )
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7) ( <b>LRR R, MLRA 149B</b> )	

### Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)  
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)  
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)  
☐ Dark Surface (S7) (**LRR K, L**)  
☐ Polyvalue Below Surface (S8) (**LRR K, L**)  
☐ Thin Dark Surface (S9) (**LRR K, L**)  
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)  
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)  
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric soil present? Y

Remarks:

Are disturbed in the past.



## **APPENDIX D**

### **OHIO RAPID ASSESSMENT METHOD FORMS**



# Wetland A - Ironville Pipeline

## Background Information

<b>Name:</b>	S. Pepper / N. Daniels		
<b>Date:</b>	April 5, 2018		
<b>Affiliation:</b>	Utility Technologies International, Inc.		
<b>Address:</b>	4700 Homer Ohio Lane, Groveport, OH		
<b>Phone Number:</b>	614-482-8080		
<b>e-mail address:</b>	speffer@uti-corp.com		
<b>Name of Wetland:</b>	Wetland A		
<b>Vegetation Communit(ies):</b>	Emergent		
<b>HGM Class(es):</b>	Depressional		
<b>Location of Wetland:</b> Include map, address, north arrow, landmarks, distances, roads, etc.			
<p style="font-size: 1.5em; font-family: cursive;">See wetland maps.</p>			
<b>Lat/Long or UTM Coordinate</b>	41deg40'4.48"N / 83deg28'24.55"W		
<b>USGS Quad Name</b>	Oregon, Ohio-Michigan		
<b>County</b>	Lucas		
<b>Township</b>	Oregon		
<b>Section and Subsection</b>			
<b>Hydrologic Unit Code</b>	Lower Maumee - 04100010		
<b>Site Visit</b>	April 5, 2018		
<b>National Wetland Inventory Map</b>			
<b>Ohio Wetland Inventory Map</b>			
<b>Soil Survey</b>			
<b>Delineation report/map</b>			



Name of Wetland:	Wetland A	
Wetland Size (acres, hectares):	13.16 c	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.		
Comments, Narrative Discussion, Justification of Category Changes:		
<p>Wetland associated w/ Ag fields</p>		
Final score :	37	Category: Mod. 2



## Scoring Boundary Worksheet

**INSTRUCTIONS.** The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	✓	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e., areas that have a high degree of hydrologic interaction are included within the scoring boundary.	✓	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	✓	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✓
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		✓

**End of Scoring Boundary Determination. Begin Narrative Rating on next page.**



## Narrative Rating

**INSTRUCTIONS.** Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	<b>Critical Habitat.</b> Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES  Wetland should be evaluated for possible Category 3 status  Go to Question 2	NO Go to Question 2
2	<b>Threatened or Endangered Species.</b> Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES  Wetland is a Category 3 wetland.  Go to Question 3	NO Go to Question 3
3	<b>Documented High Quality Wetland.</b> Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES  Wetland is a Category 3 wetland  Go to Question 4	NO Go to Question 4
4	<b>Significant Breeding or Concentration Area.</b> Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES  Wetland is a Category 3 wetland  Go to Question 5	NO Go to Question 5
5	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES  Wetland is a Category 1 wetland  Go to Question 6	NO Go to Question 6
6	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	NO Go to Question 7
7	<b>Fens.</b> Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 8a	NO Go to Question 8a
8a	<b>"Old Growth Forest."</b> Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES  Wetland is a Category 3 wetland.  Go to Question 8b	NO Go to Question 8b



8b	<b>Mature forested wetlands.</b> Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES  Wetland should be evaluated for possible Category 3 status.  Go to Question 9a	<del>NO</del> Go to Question 9a
9a	<b>Lake Erie coastal and tributary wetlands.</b> Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES  Go to Question 9b	<del>NO</del> Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES  Wetland should be evaluated for possible Category 3 status  Go to Question 10	NO  Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES  Go to Question 9d	NO  Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES  Wetland is a Category 3 wetland  Go to Question 10	NO  Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES  Wetland should be evaluated for possible Category 3 status  Go to Question 10	NO  Go to Question 10
10	<b>Lake Plain Sand Prairies (Oak Openings)</b> Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES  Wetland is a Category 3 wetland.  Go to Question 11	<del>NO</del> Go to Question 11
11	<b>Relict Wet Prairies.</b> Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES  Wetland should be evaluated for possible Category 3 status  Complete Quantitative Rating	<del>NO</del> Complete Quantitative Rating



**Table 1. Characteristic plant species.**

<b>Invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis canadensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarina</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccos</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

**End of Narrative Rating. Begin Quantitative Rating on next page.**



<b>Site:</b> Wetland A - Ironville Pipeline	<b>Rater(s):</b> S. Peffer/N. Daniels	<b>Date:</b> April 5, 2018
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4	4
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)

5	9
max 14 pts.	subtotal

### Metric 2. Upland buffers and surrounding land use.

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

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

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

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

13	22
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 only one and assign score.

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

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

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

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed	
<input type="checkbox"/> ditch <input type="checkbox"/> tile <input type="checkbox"/> dike <input type="checkbox"/> weir <input type="checkbox"/> stormwater input	<input type="checkbox"/> point source (nonstormwater) <input type="checkbox"/> filling/grading <input checked="" type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input type="checkbox"/> other _____

14	36
max 20 pts.	subtotal

### Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

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

36
subtotal this page



<b>Site:</b> Wetland A - Ironville Pipeline	<b>Rater(s):</b> S. Peffer/N. Daniels	<b>Date:</b> April 5, 2018
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36	
subtotal first page	

0	36
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 1 Qualitative Rating (-10)

1	37
max 20 pts	subtotal

## Metric 6. Plant communities, interspersions, microtopography.

### 6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

### 6b. horizontal (plan view) Interspersions.

Select only one.

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

### 6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

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

### 6d. Microtopography.

Score all present using 0 to 3 scale.

- ☒ Vegetated hummocks/mounds
- ☒ 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 vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

### Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

### Mudflat and Open Water Class Quality

0	Absent <0.1ha (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

37
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Modified 2

End of Quantitative Rating. Complete Categorization Worksheets.



## ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 1.
	Question 6. Bogs	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 7. Fens	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
Question 10. Oak Openings	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	4	
	Metric 2. Buffers and surrounding land use	5	
	Metric 3. Hydrology	13	
	Metric 4. Habitat	14	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersed, microtopography	1	
	TOTAL SCORE	37	Category based on score breakpoints <i>Mod. 2</i>

**Complete Wetland Categorization Worksheet.**



## Wetland Categorization Worksheet

Choices	Circle one	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:  Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES  Wetland is categorized as a Category 3 wetland	<input checked="" type="radio"/> NO  Is quantitative rating score <i>less</i> than the Category 2 scoring threshold ( <i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions:  Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES  Wetland should be evaluated for possible Category 3 status	<input checked="" type="radio"/> NO  Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to  Narrative Rating No. 5	YES  Wetland is categorized as a Category 1 wetland	<input checked="" type="radio"/> NO  Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold ( <i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<input checked="" type="radio"/> YES  Wetland is assigned to the appropriate category based on the scoring range	<input type="radio"/> NO  If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall within the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES  Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input checked="" type="radio"/> NO  Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES  Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="radio"/> NO  Wetland is assigned to category as determined by the ORAM.  A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Choose one      Category 1      Final Category      Category 2      Category 3

**End of Ohio Rapid Assessment Method for Wetlands.**



# Wetland B - Ironville Pipeline

## Background Information

Name:	S. Peffer / N. Daniels		
Date:	April 5, 2018		
Affiliation:	Utility Technologies International, Inc.		
Address:	4700 Homer Ohio Lane, Groveport, OH		
Phone Number:	614-482-8080		
e-mail address:	speffer@uti-corp.com		
Name of Wetland:	Wetland <del>A</del> B		
Vegetation Communit(ies):	Emergent		
HGM Class(es):	Depressional		
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.			
<i>See wetland maps</i>			
Lat/Long or UTM Coordinate	41deg40'4.48"N / 83deg28'24.55"W		
USGS Quad Name	Oregon, Ohio-Michigan		
County	Lucas		
Township	Oregon		
Section and Subsection			
Hydrologic Unit Code	Lower Maumee - 04100010		
Site Visit	April 5, 2018		
National Wetland Inventory Map			
Ohio Wetland Inventory Map			
Soil Survey			
Delineation report/map			



Name of Wetland:	Wetland B	
Wetland Size (acres, hectares):	2.02 Ac	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.		
<p>See Wetland Maps.</p>		
Comments, Narrative Discussion, Justification of Category Changes:		
Final score :	8	Category: 1



## Scoring Boundary Worksheet

**INSTRUCTIONS.** The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		✓
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	✓	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	✓	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✓
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		✓

**End of Scoring Boundary Determination. Begin Narrative Rating on next page.**



## Narrative Rating

**INSTRUCTIONS.** Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	<b>Critical Habitat.</b> Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES  Wetland should be evaluated for possible Category 3 status  Go to Question 2	NO Go to Question 2
2	<b>Threatened or Endangered Species.</b> Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES  Wetland is a Category 3 wetland.  Go to Question 3	NO Go to Question 3
3	<b>Documented High Quality Wetland.</b> Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES  Wetland is a Category 3 wetland  Go to Question 4	NO Go to Question 4
4	<b>Significant Breeding or Concentration Area.</b> Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES  Wetland is a Category 3 wetland  Go to Question 5	NO Go to Question 5
5	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES  Wetland is a Category 1 wetland  Go to Question 6	NO Go to Question 6
6	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	NO Go to Question 7
7	<b>Fens.</b> Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 8a	NO Go to Question 8a
8a	<b>"Old Growth Forest."</b> Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES  Wetland is a Category 3 wetland.  Go to Question 8b	NO Go to Question 8b



8b	<b>Mature forested wetlands.</b> Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES  Wetland should be evaluated for possible Category 3 status.  Go to Question 9a	<b>NO</b> Go to Question 9a
9a	<b>Lake Erie coastal and tributary wetlands.</b> Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES  Go to Question 9b	<b>NO</b> Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES  Wetland should be evaluated for possible Category 3 status  Go to Question 10	NO  Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES  Go to Question 9d	NO  Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES  Wetland is a Category 3 wetland  Go to Question 10	NO  Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES  Wetland should be evaluated for possible Category 3 status  Go to Question 10	NO  Go to Question 10
10	<b>Lake Plain Sand Prairies (Oak Openings)</b> Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES  Wetland is a Category 3 wetland.  Go to Question 11	<b>NO</b> Go to Question 11
11	<b>Relict Wet Prairies.</b> Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES  Wetland should be evaluated for possible Category 3 status  Complete Quantitative Rating	<b>NO</b> Complete Quantitative Rating



**Table 1. Characteristic plant species.**

<b>Invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis canadensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinatum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccus</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

**End of Narrative Rating. Begin Quantitative Rating on next page.**



<b>Site:</b> Wetland B - Ironville Pipeline	<b>Rater(s):</b> S. Pepper/N. Daniels	<b>Date:</b> April 5, 2018
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0	0
max 6 pts.	subtotal

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

Select one size class and assign score.

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

2	2
max 14 pts.	subtotal

### Metric 2. Upland buffers and surrounding land use.

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

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

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

- ☐ VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- ☐ LOW. Old field (>10 years), shrub land, 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	8
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 only one and assign score.

- ☐ >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)

Check all disturbances observed

- ☐ ditch
- ☐ tile
- ☐ dike
- ☐ weir
- ☒ stormwater input

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)

4	12
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

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li><input type="checkbox"/> mowing</li> <li><input type="checkbox"/> grazing</li> <li><input type="checkbox"/> clearcutting</li> <li><input type="checkbox"/> selective cutting</li> <li><input type="checkbox"/> woody debris removal</li> <li><input checked="" type="checkbox"/> toxic pollutants</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> shrub/sapling removal</li> <li><input type="checkbox"/> herbaceous/aquatic bed removal</li> <li><input checked="" type="checkbox"/> sedimentation</li> <li><input type="checkbox"/> dredging</li> <li><input type="checkbox"/> farming</li> <li><input type="checkbox"/> nutrient enrichment</li> </ul> |
|---|---|

12
subtotal this page



<b>Site:</b> Wetland B - Ironville Pipeline	<b>Rater(s):</b> S. Peffer/N. Daniels	<b>Date:</b> April 5, 2018
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12
subtotal first page

0	12
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 1 Qualitative Rating (-10)

-3	9
max 20 pts	subtotal

## Metric 6. Plant communities, interspersions, microtopography.

### 6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

### 6b. horizontal (plan view) Interspersions.

Select only one.

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

### 6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

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

### 6d. Microtopography.

Score all present using 0 to 3 scale.

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

### Vegetation Community Cover Scale

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

### Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

### Mudflat and Open Water Class Quality

0	Absent <0.1ha (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

9
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End of Quantitative Rating. Complete Categorization Worksheets.



## ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 1.
	Question 6. Bogs	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 7. Fens	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
Question 10. Oak Openings	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	2	
	Metric 3. Hydrology	6	
	Metric 4. Habitat	4	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersed, microtopography	-3	
	TOTAL SCORE	9	Category based on score breakpoints <div style="text-align: right;">1</div>

**Complete Wetland Categorization Worksheet.**



## Wetland Categorization Worksheet

Choices	Circle one	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:  Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES  Wetland is categorized as a Category 3 wetland	<input checked="" type="radio"/> NO  Is quantitative rating score <i>less</i> than the Category 2 scoring threshold ( <i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions:  Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES  Wetland should be evaluated for possible Category 3 status	<input checked="" type="radio"/> NO  Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments <u>may also be used to determine the wetland's category.</u>
Did you answer "Yes" to  Narrative Rating No. 5	YES  Wetland is categorized as a Category 1 wetland	<input checked="" type="radio"/> NO  Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold ( <i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<input checked="" type="radio"/> YES  Wetland is assigned to the appropriate category based on the scoring range	<input type="radio"/> NO  If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES  Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input checked="" type="radio"/> NO  Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES  Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="radio"/> NO  Wetland is assigned to category as determined by the ORAM.  A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category			
<input checked="" type="radio"/> Choose one	<input type="radio"/> Category 1	<input type="radio"/> Category 2	<input type="radio"/> Category 3

**End of Ohio Rapid Assessment Method for Wetlands.**



# Wetland C - Ironville Pipeline

## Background Information

Name:	S. Pepper / N. Daniels
Date:	April 5, 2018
Affiliation:	Utility Technologies International, Inc.
Address:	4700 Homer Ohio Lane, Groveport, OH
Phone Number:	614-482-8080
e-mail address:	speffer@uti-corp.com
Name of Wetland:	Wetland C
Vegetation Community(ies):	Emergent
HGM Class(es):	Depressional
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
<i>See Wetland Map.</i>	
Lat/Long or UTM Coordinate	41deg40'4.48"N / 83deg28'24.55"W
USGS Quad Name	Oregon, Ohio-Michigan
County	Lucas
Township	Oregon
Section and Subsection	
Hydrologic Unit Code	Lower Maumee - 04100010
Site Visit	April 5, 2018
National Wetland Inventory Map	
Ohio Wetland Inventory Map	
Soil Survey	
Delineation report/map	



Name of Wetland:	Wetland C		
Wetland Size (acres, hectares):	1.11		
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.			
<p>See wetland map.</p>			
Comments, Narrative Discussion, Justification of Category Changes:			
Final score :	23		Category: 1



## Scoring Boundary Worksheet

**INSTRUCTIONS.** The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		✓
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	✓	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		✓
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✓
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		✓

**End of Scoring Boundary Determination. Begin Narrative Rating on next page.**



## Narrative Rating

**INSTRUCTIONS.** Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	<b>Critical Habitat.</b> Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000)	YES  Wetland should be evaluated for possible Category 3 status  Go to Question 2	<b>NO</b> Go to Question 2
2	<b>Threatened or Endangered Species.</b> Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES  Wetland is a Category 3 wetland.  Go to Question 3	<b>NO</b> Go to Question 3
3	<b>Documented High Quality Wetland.</b> Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES  Wetland is a Category 3 wetland  Go to Question 4	<b>NO</b> Go to Question 4
4	<b>Significant Breeding or Concentration Area.</b> Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES  Wetland is a Category 3 wetland  Go to Question 5	<b>NO</b> Go to Question 5
5	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES  Wetland is a Category 1 wetland  Go to Question 6	<b>NO</b> Go to Question 6
6	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<b>NO</b> Go to Question 7
7	<b>Fens.</b> Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 8a	<b>NO</b> Go to Question 8a
8a	<b>"Old Growth Forest."</b> Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES  Wetland is a Category 3 wetland.  Go to Question 8b	<b>NO</b> Go to Question 8b



8b	<b>Mature forested wetlands.</b> Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES  Wetland should be evaluated for possible Category 3 status.  Go to Question 9a	<u>NO</u>  Go to Question 9a
9a	<b>Lake Erie coastal and tributary wetlands.</b> Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES  Go to Question 9b	<u>NO</u>  Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES  Wetland should be evaluated for possible Category 3 status  Go to Question 10	NO  Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES  Go to Question 9d	NO  Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES  Wetland is a Category 3 wetland  Go to Question 10	NO  Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES  Wetland should be evaluated for possible Category 3 status  Go to Question 10	NO  Go to Question 10
10	<b>Lake Plain Sand Prairies (Oak Openings)</b> Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES  Wetland is a Category 3 wetland.  Go to Question 11	<u>NO</u>  Go to Question 11
11	<b>Relict Wet Prairies.</b> Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES  Wetland should be evaluated for possible Category 3 status  Complete Quantitative Rating	<u>NO</u>  Complete Quantitative Rating



**Table 1. Characteristic plant species.**

<b>Invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis canadensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicaratum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccos</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

**End of Narrative Rating. Begin Quantitative Rating on next page.**



<b>Site:</b> Wetland C - Ironville Pipeline	<b>Rater(s):</b> S. Pepper/N. Daniels	<b>Date:</b> April 5, 2018
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2	2
max 6 pts	subtotal

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

Select one size class and assign score.

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

4	6
max 14 pts	subtotal

### Metric 2. Upland buffers and surrounding land use.

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

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

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

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

12	18
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 only one and assign score.

- ☐ >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

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li><input type="checkbox"/> ditch</li> <li><input type="checkbox"/> tile</li> <li><input type="checkbox"/> dike</li> <li><input type="checkbox"/> weir</li> <li><input checked="" type="checkbox"/> stormwater input</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> point source (nonstormwater)</li> <li><input type="checkbox"/> filling/grading</li> <li><input checked="" type="checkbox"/> road bed/RR track</li> <li><input type="checkbox"/> dredging</li> <li><input type="checkbox"/> other _____</li> </ul> |
|---|---|

8	26
max 20 pts	subtotal

### Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li><input type="checkbox"/> mowing</li> <li><input type="checkbox"/> grazing</li> <li><input type="checkbox"/> clearcutting</li> <li><input type="checkbox"/> selective cutting</li> <li><input type="checkbox"/> woody debris removal</li> <li><input checked="" type="checkbox"/> toxic pollutants</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> shrub/sapling removal</li> <li><input type="checkbox"/> herbaceous/aquatic bed removal</li> <li><input checked="" type="checkbox"/> sedimentation</li> <li><input type="checkbox"/> dredging</li> <li><input type="checkbox"/> farming</li> <li><input type="checkbox"/> nutrient enrichment</li> </ul> |
|---|---|

26
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subtotal this page



<b>Site:</b> Wetland C - Ironville Pipeline	<b>Rater(s):</b> S. Pfeffer/N. Daniels	<b>Date:</b> April 5, 2018
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26	
subtotal first page	
0	26
max 10 pts.	subtotal

## Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

-3	23
max 20 pts.	subtotal

## Metric 6. Plant communities, interspersions, microtopography.

### 6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

### 6b. horizontal (plan view) Interspersions.

Select only one.

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

### 6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

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

### 6d. Microtopography.

Score all present using 0 to 3 scale.

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

### Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.247 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

### Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

### Mudflat and Open Water Class Quality

0	Absent <0.1ha (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

23
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**End of Quantitative Rating. Complete Categorization Worksheets.**



## ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <u>NO</u>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <u>NO</u>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <u>NO</u>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <u>NO</u>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <u>NO</u>	If yes, Category 1.
	Question 6. Bogs	YES <u>NO</u>	If yes, Category 3.
	Question 7. Fens	YES <u>NO</u>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <u>NO</u>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <u>NO</u>	If yes, Category 3
Quantitative Rating	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES <u>NO</u>	If yes, Category 3
	Question 11. Relict Wet Prairies	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Metric 1. Size	<u>2</u>	
	Metric 2. Buffers and surrounding land use	<u>4</u>	
	Metric 3. Hydrology	<u>12</u>	
	Metric 4. Habitat	<u>8</u>	
	Metric 5. Special Wetland Communities	<u>0</u>	
Metric 6. Plant communities, interspersed, microtopography	<u>-3</u>		
	TOTAL SCORE	<u>23</u>	Category based on score breakpoints <u>1</u>

**Complete Wetland Categorization Worksheet**



## Wetland Categorization Worksheet

Choices	Circle one	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:  Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES  Wetland is categorized as a Category 3 wetland	NO  Is quantitative rating score <i>less</i> than the Category 2 scoring threshold ( <i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions:  Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES  Wetland should be evaluated for possible Category 3 status	NO  Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to  Narrative Rating No. 5	YES  Wetland is categorized as a Category 1 wetland	NO  Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold ( <i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES  Wetland is assigned to the appropriate category based on the scoring range	NO  If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES  Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO  Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES  Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	NO  Wetland is assigned to category as determined by the ORAM.  A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Choose one
Category 1
Category 2
Category 3

**End of Ohio Rapid Assessment Method for Wetlands.**



# Wetland D - Ironville Pipeline

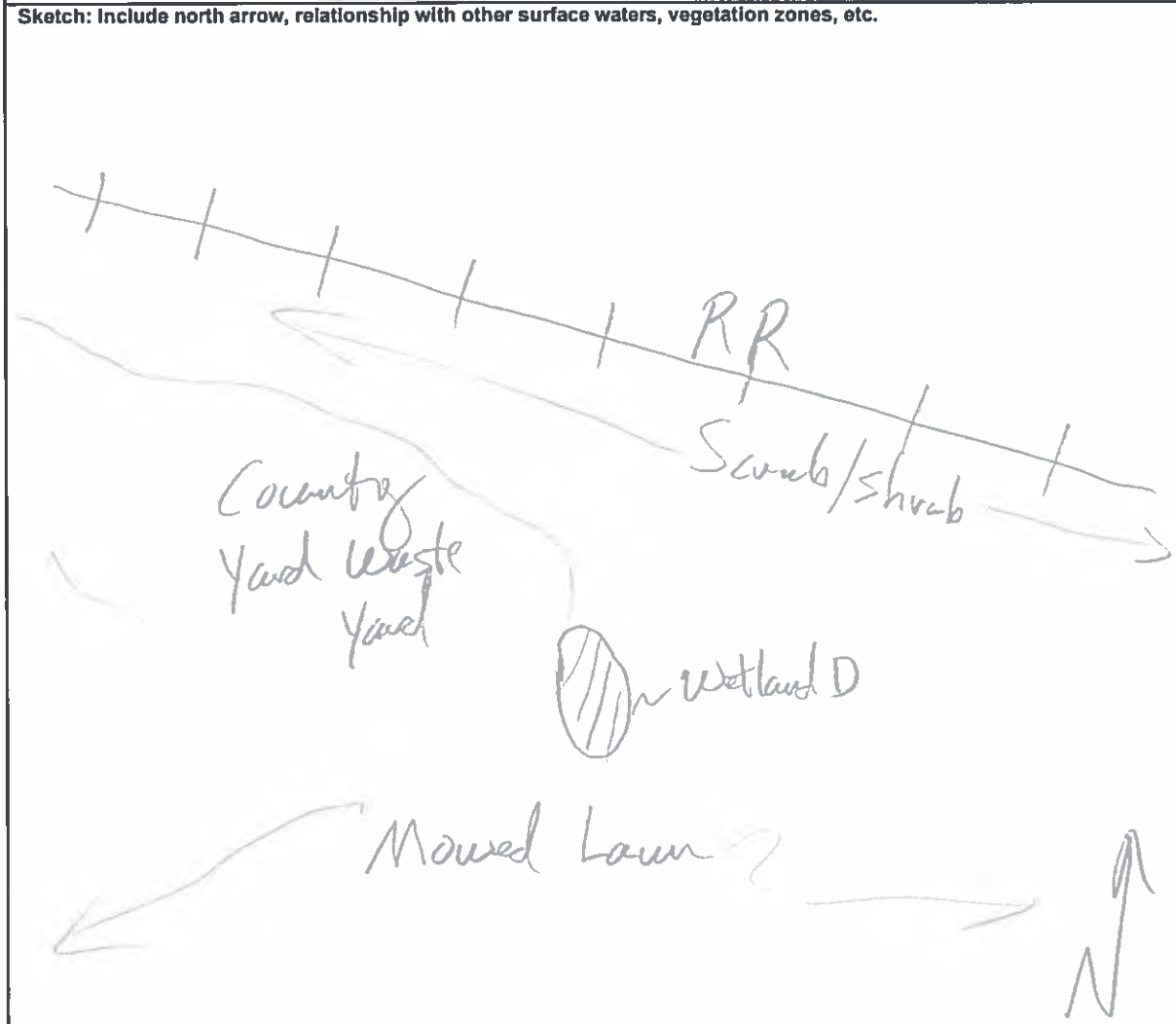
## Background Information

Name:	S. Peffer / N. Daniels		
Date:	April 5, 2018		
Affiliation:	Utility Technologies International, Inc.		
Address:	4700 Homer Ohio Lane, Groveport, OH		
Phone Number:	614-482-8080		
e-mail address:	speffer@uti-corp.com		
Name of Wetland:	Wetland D		
Vegetation Community(ies):	Emergent		
HGM Class(es):	Depressional		
<p>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</p> <div style="text-align: center; height: 150px; vertical-align: middle;"> <p style="font-size: 2em; color: gray;">See wetland maps.</p> </div>			
Lat/Long or UTM Coordinate	41deg40'4.48"N / 83deg28'24.55"W		
USGS Quad Name	Oregon, Ohio-Michigan		
County	Lucas		
Township	Oregon		
Section and Subsection			
Hydrologic Unit Code	Lower Maumee - 04100010		
Site Visit	April 5, 2018		
National Wetland Inventory Map			
Ohio Wetland Inventory Map			
Soil Survey			
Delineation report/map			



Name of Wetland: **Wetland D**

Wetland Size (acres, hectares): **0.08**



Comments, Narrative Discussion, Justification of Category Changes:

NA

Final score : **13** Category: **1**



## Scoring Boundary Worksheet

**INSTRUCTIONS.** The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	✓	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	✓	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		✓
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✓
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		✓

**End of Scoring Boundary Determination. Begin Narrative Rating on next page.**



## Narrative Rating

**INSTRUCTIONS.** Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	<b>Critical Habitat.</b> Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES  Wetland should be evaluated for possible Category 3 status  Go to Question 2	<b>NO</b> Go to Question 2
2	<b>Threatened or Endangered Species.</b> Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES  Wetland is a Category 3 wetland.  Go to Question 3	<b>NO</b> Go to Question 3
3	<b>Documented High Quality Wetland.</b> Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES  Wetland is a Category 3 wetland  Go to Question 4	<b>NO</b> Go to Question 4
4	<b>Significant Breeding or Concentration Area.</b> Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES  Wetland is a Category 3 wetland  Go to Question 5	<b>NO</b> Go to Question 5
5	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	<b>YES</b> Wetland is a Category 1 wetland  Go to Question 6	NO Go to Question 6
6	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<b>NO</b> Go to Question 7
7	<b>Fens.</b> Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 8a	<b>NO</b> Go to Question 8a
8a	<b>"Old Growth Forest."</b> Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES  Wetland is a Category 3 wetland.  Go to Question 8b	<b>NO</b> Go to Question 8b



8b	<b>Mature forested wetlands.</b> Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES  Wetland should be evaluated for possible Category 3 status.  Go to Question 9a	<b>NO</b> Go to Question 9a
9a	<b>Lake Erie coastal and tributary wetlands.</b> Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES  Go to Question 9b	<b>NO</b> Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES  Wetland should be evaluated for possible Category 3 status  Go to Question 10	NO  Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES  Go to Question 9d	NO  Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES  Wetland is a Category 3 wetland  Go to Question 10	NO  Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES  Wetland should be evaluated for possible Category 3 status  Go to Question 10	NO  Go to Question 10
10	<b>Lake Plain Sand Prairies (Oak Openings)</b> Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES  Wetland is a Category 3 wetland.  Go to Question 11	<b>NO</b> Go to Question 11
11	<b>Relict Wet Prairies.</b> Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES  Wetland should be evaluated for possible Category 3 status  Complete Quantitative Rating	<b>NO</b> Complete Quantitative Rating



**Table 1. Characteristic plant species.**

<b>Invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Alyriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellua</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis canadensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinatum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccos</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Nyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

**End of Narrative Rating. Begin Quantitative Rating on next page.**



<b>Site:</b> Wetland D - Ironville Pipeline	<b>Rater(s):</b> S. Pepper/N. Daniels	<b>Date:</b> April 5, 2018
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0	0
max 6 pts.	subtotal

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

Select one size class and assign score.

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

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), shrub land, young second growth forest. (5)
- ☒ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- ☒ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

7	10
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 only one and assign score.

- ☐ >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)

Check all disturbances observed

- ☐ ditch
- ☐ tile
- ☐ dike
- ☐ weir
- ☒ stormwater input

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)

- ☐ point source (nonstormwater)
- ☐ filling/grading
- ☐ road bed/RR track
- ☐ dredging
- ☒ other *Mowed lawn*

7	17
max 20 pts.	subtotal

### Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed

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

17
subtotal this page



<b>Site:</b> Wetland D - Ironville Pipeline	<b>Rater(s):</b> S. Pepper/N. Daniels	<b>Date:</b> April 5, 2018
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17  
subtotal first page

0	17
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 1 Qualitative Rating (-10)

-4	13
max 20 pts.	subtotal

### Metric 6. Plant communities, interspersions, microtopography.

#### 6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

#### 6b. horizontal (plan view) Interspersion

Select only one.

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

#### 6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

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

#### 6d. Microtopography.

Score all present using 0 to 3 scale.

- ☒ Vegetated hummocks/mounds
- ☒ 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 vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

#### Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

#### Mudflat and Open Water Class Quality

0	Absent <0.1ha (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

13

End of Quantitative Rating. Complete Categorization Worksheets.



## ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES <u>NO</u>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <u>NO</u>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <u>NO</u>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <u>NO</u>	If yes, Category 3.
	Question 5. Category 1 Wetlands	<u>YES</u> NO	If yes, Category 1.
	Question 6. Bogs	YES <u>NO</u>	If yes, Category 3.
	Question 7. Fens	YES <u>NO</u>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <u>NO</u>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <u>NO</u>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
Question 10. Oak Openings	YES <u>NO</u>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	<u>0</u>	
	Metric 2. Buffers and surrounding land use	<u>3</u>	
	Metric 3. Hydrology	<u>7</u>	
	Metric 4. Habitat	<u>7</u>	
	Metric 5. Special Wetland Communities	<u>0</u>	
	Metric 6. Plant communities, interspersions, microtopography	<u>-4</u>	
	TOTAL SCORE	<u>13</u>	Category based on score breakpoints

**Complete Wetland Categorization Worksheet.**



## Wetland Categorization Worksheet

Choices	Circle one	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:  Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES  Wetland is categorized as a Category 3 wetland	<input checked="" type="radio"/> NO  Is quantitative rating score <i>less</i> than the Category 2 scoring threshold ( <i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions:  Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES  Wetland should be evaluated for possible Category 3 status	<input checked="" type="radio"/> NO  Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to  Narrative Rating No. 5	YES  Wetland is categorized as a Category 1 wetland	<input checked="" type="radio"/> NO  Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold ( <i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<input checked="" type="radio"/> YES  Wetland is assigned to the appropriate category based on the scoring range	<input type="radio"/> NO  If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES  Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input checked="" type="radio"/> NO  Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES  Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="radio"/> NO  Wetland is assigned to category as determined by the ORAM.  A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Choose one
Category 1
Category 2
Category 3

**End of Ohio Rapid Assessment Method for Wetlands.**



# Wetland E - Ironville Pipeline

## Background Information

Name:	S. Pepper / N. Daniels
Date:	April 5, 2018
Affiliation:	Utility Technologies International, Inc.
Address:	4700 Homer Ohio Lane, Groveport, OH
Phone Number:	614-482-8080
e-mail address:	speffer@uti-corp.com
Name of Wetland:	Wetland E
Vegetation Communit(ies):	Emergent
HGM Class(es):	Depressional
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
<i>See Wetland Maps.</i>	

Lat/Long or UTM Coordinate	41deg40'4.48"N / 83deg28'24.55"W
USGS Quad Name	Oregon, Ohio-Michigan
County	Lucas
Township	Oregon
Section and Subsection	
Hydrologic Unit Code	Lower Maumee - 04100010
Site Visit	April 5, 2018
National Wetland Inventory Map	
Ohio Wetland Inventory Map	
Soil Survey	
Delineation report/map	



Name of Wetland:	Wetland E	
Wetland Size (acres, hectares):	2.13	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.		
Comments, Narrative Discussion, Justification of Category Changes:		
NA		
Final score :	10	Category: 1



## Scoring Boundary Worksheet

**INSTRUCTIONS.** The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
<b>Step 2</b>	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	✓	
<b>Step 3</b>	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	✓	
<b>Step 4</b>	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		✓
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✓
<b>Step 6</b>	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		✓

**End of Scoring Boundary Determination. Begin Narrative Rating on next page.**



## Narrative Rating

**INSTRUCTIONS.** Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	<b>Critical Habitat.</b> Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES  Wetland should be evaluated for possible Category 3 status  Go to Question 2	NO Go to Question 2
2	<b>Threatened or Endangered Species.</b> Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES  Wetland is a Category 3 wetland.  Go to Question 3	NO Go to Question 3
3	<b>Documented High Quality Wetland.</b> Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES  Wetland is a Category 3 wetland  Go to Question 4	NO Go to Question 4
4	<b>Significant Breeding or Concentration Area.</b> Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES  Wetland is a Category 3 wetland  Go to Question 5	NO Go to Question 5
5	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES  Wetland is a Category 1 wetland  Go to Question 6	NO Go to Question 6
6	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	NO Go to Question 7
7	<b>Fens.</b> Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 8a	NO Go to Question 8a
8a	<b>"Old Growth Forest."</b> Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES  Wetland is a Category 3 wetland.  Go to Question 8b	NO Go to Question 8b



8b	<b>Mature forested wetlands.</b> Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES  Wetland should be evaluated for possible Category 3 status.  Go to Question 9a	<b>NO</b>  Go to Question 9a
9a	<b>Lake Erie coastal and tributary wetlands.</b> Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES  Go to Question 9b	<b>NO</b>  Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES  Wetland should be evaluated for possible Category 3 status  Go to Question 10	<b>NO</b>  Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES  Go to Question 9d	<b>NO</b>  Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES  Wetland is a Category 3 wetland  Go to Question 10	NO  Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES  Wetland should be evaluated for possible Category 3 status  Go to Question 10	NO  Go to Question 10
10	<b>Lake Plain Sand Prairies (Oak Openings)</b> Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES  Wetland is a Category 3 wetland.  Go to Question 11	<b>NO</b>  Go to Question 11
11	<b>Relict Wet Prairies.</b> Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES  Wetland should be evaluated for possible Category 3 status  Complete Quantitative Rating	<b>NO</b>  Complete Quantitative Rating



**Table 1. Characteristic plant species.**

<b>Invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis canadensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinatum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccos</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

**End of Narrative Rating. Begin Quantitative Rating on next page.**



<b>Site:</b> Wetland E - Ironville Pipeline	<b>Rater(s):</b> S. Peffer/N. Daniels	<b>Date:</b> April 5, 2018
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1	1
max 6 pts.	subtotal

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

Select one size class and assign score.

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

1	2
max 14 pts.	subtotal

### Metric 2. Upland buffers and surrounding land use.

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

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

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

- ☐ VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- ☐ LOW. Old field (>10 years), shrub land, 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)

5	7
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 only one and assign score.

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

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

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

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

- ☐ ditch
- ☐ tile
- ☐ dike
- ☐ weir
- ☐ stormwater input

- ☐ point source (nonstormwater)
- ☐ filling/grading
- ☐ road bed/RR track
- ☐ dredging
- ☐ other \_\_\_\_\_

3	10
max 20 pts.	subtotal

### Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed

- ☐ mowing
- ☐ grazing
- ☐ clearcutting
- ☐ selective cutting
- ☐ woody debris removal
- ☒ toxic pollutants

- ☐ shrub/sapling removal
- ☐ herbaceous/aquatic bed removal
- ☒ sedimentation
- ☐ dredging
- ☐ farming
- ☒ nutrient enrichment

10
subtotal this page



<b>Site:</b> Wetland E - Ironville Pipeline	<b>Rater(s):</b> S. Pepper/N. Daniels	<b>Date:</b> April 5, 2018
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10

subtotal first page

0

10

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 1 Qualitative Rating (-10)

0

10

max 20 pts
subtotal

## Metric 6. Plant communities, interspersions, microtopography.

### 6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

### 6b. horizontal (plan view) Interspersions.

Select only one.

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

### 6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

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

### 6d. Microtopography.

Score all present using 0 to 3 scale.

- ☒ Vegetated hummocks/mounds
- ☒ 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 vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

### Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

### Mudflat and Open Water Class Quality

0	Absent <0.1ha (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

10

**End of Quantitative Rating. Complete Categorization Worksheets.**



## ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <u>NO</u>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <u>NO</u>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <u>NO</u>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <u>NO</u>	If yes, Category 3.
	Question 5. Category 1 Wetlands	<u>YES</u> NO	If yes, Category 1.
	Question 6. Bogs	YES <u>NO</u>	If yes, Category 3.
	Question 7. Fens	YES <u>NO</u>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <u>NO</u>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <u>NO</u>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
Question 10. Oak Openings	YES <u>NO</u>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	<u>1</u>	
	Metric 2. Buffers and surrounding land use	<u>1</u>	
	Metric 3. Hydrology	<u>5</u>	
	Metric 4. Habitat	<u>3</u>	
	Metric 5. Special Wetland Communities	<u>0</u>	
	Metric 6. Plant communities, interspersed, microtopography	<u>0</u>	
	TOTAL SCORE	<u>10</u>	Category based on score breakpoints <u>1</u>

**Complete Wetland Categorization Worksheet**



## Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:  Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES  Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold ( <i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions:  Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES  Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to  Narrative Rating No. 5	YES  Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold ( <i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES  Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES  Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES  Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	NO  Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Choose one


**Final Category**  
 Category 1
 
Category 2
Category 3

**End of Ohio Rapid Assessment Method for Wetlands.**



# Wetland G - Ironville Pipeline

## Background Information

Name:	S. Pfeffer / N. Daniels
Date:	April 5, 2018
Affiliation:	Utility Technologies International, Inc.
Address:	4700 Homer Ohio Lane, Groveport, OH
Phone Number:	614-482-8080
e-mail address:	speffer@uti-corp.com
Name of Wetland:	Wetland G
Vegetation Community(ies):	Emergent
HGM Class(es):	Depressional
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.  See Wetland Maps	
Lat/Long or UTM Coordinate	41deg40'4.48"N / 83deg28'24.55"W
USGS Quad Name	Oregon, Ohio-Michigan
County	Lucas
Township	Oregon
Section and Subsection	
Hydrologic Unit Code	Lower Maumee - 04100010
Site Visit	April 5, 2018
National Wetland Inventory Map	
Ohio Wetland Inventory Map	
Soil Survey	
Delineation report/map	



Name of Wetland:	Wetland G	
Wetland Size (acres, hectares):	0.04	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.		
Comments, Narrative Discussion, Justification of Category Changes:		
NA		
Final score :	12	Category: 1



## Scoring Boundary Worksheet

**INSTRUCTIONS.** The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	✓	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	✓	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		✓
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✓
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		✓

**End of Scoring Boundary Determination. Begin Narrative Rating on next page.**



## Narrative Rating

**INSTRUCTIONS.** Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	<b>Critical Habitat.</b> Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES  Wetland should be evaluated for possible Category 3 status  Go to Question 2	NO Go to Question 2
2	<b>Threatened or Endangered Species.</b> Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES  Wetland is a Category 3 wetland.  Go to Question 3	NO Go to Question 3
3	<b>Documented High Quality Wetland.</b> Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES  Wetland is a Category 3 wetland  Go to Question 4	NO Go to Question 4
4	<b>Significant Breeding or Concentration Area.</b> Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES  Wetland is a Category 3 wetland  Go to Question 5	NO Go to Question 5
5	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES  Wetland is a Category 1 wetland  Go to Question 6	NO Go to Question 6
6	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	NO Go to Question 7
7	<b>Fens.</b> Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 8a	NO Go to Question 8a
8a	<b>"Old Growth Forest."</b> Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES  Wetland is a Category 3 wetland.  Go to Question 8b	NO Go to Question 8b



8b	<b>Mature forested wetlands.</b> Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES  Wetland should be evaluated for possible Category 3 status.  Go to Question 9a	<b>NO</b> Go to Question 9a
9a	<b>Lake Erie coastal and tributary wetlands.</b> Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES  Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES  Wetland should be evaluated for possible Category 3 status  Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES  Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES  Wetland is a Category 3 wetland  Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES  Wetland should be evaluated for possible Category 3 status  Go to Question 10	NO Go to Question 10
10	<b>Lake Plain Sand Prairies (Oak Openings)</b> Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES  Wetland is a Category 3 wetland.  Go to Question 11	<b>NO</b> Go to Question 11
11	<b>Relict Wet Prairies.</b> Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES  Wetland should be evaluated for possible Category 3 status  Complete Quantitative Rating	<b>NO</b> Complete Quantitative Rating



**Table 1. Characteristic plant species.**

<b>invasive/exotic spp</b>	<b>fen species</b>	<b>bog species</b>	<b>Oak Opening species</b>	<b>wet prairie species</b>
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis canadensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinarum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccos</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

**End of Narrative Rating. Begin Quantitative Rating on next page.**



<b>Site:</b> Wetland G - Ironville Pipeline	<b>Rater(s):</b> S. Peffer/N. Daniels	<b>Date:</b> April 5, 2018
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0	0
max 6 pts.	subtotal

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

Select one size class and assign score.

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

1	1
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), shrub land, 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)

5.5	6.5
max 30 pts.	subtotal

### Metric 3. Hydrology.

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

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

3c. Maximum water depth. Select only one and assign score.

- ☐ >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)

1.5

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)

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

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

Check all disturbances observed

- ☒ ditch
- ☐ tile
- ☐ dike
- ☐ weir
- ☐ stormwater input

- ☐ point source (nonstormwater)
- ☒ filling/grading
- ☐ road bed/RR track
- ☐ dredging
- ☒ other *Former bulk fuel tank location*

4.5	11
max 20 pts.	subtotal

### Metric 4. Habitat Alteration and Development.

*Former bulk fuel tank location*

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

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

1.5

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)

2

11
----

subtotal this page

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



<b>Site:</b> Wetland G - Ironville Pipeline	<b>Rater(s):</b> S. Pepper/N. Daniels	<b>Date:</b> April 5, 2018
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11 subtotal first page	
0 max 10 pts	11 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 1 Qualitative Rating (-10)

1 max 20 pts	12 subtotal
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## Metric 6. Plant communities, interspersions, microtopography.

### 6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

### 6b. horizontal (plan view) Interspersion.

Select only one.

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

### 6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

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

### 6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/mounds
- ☐ 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 vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

### Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

### Mudflat and Open Water Class Quality

0	Absent <0.1ha (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

12
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End of Quantitative Rating. Complete Categorization Worksheets.



## ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 5. Category 1 Wetlands	<input checked="" type="radio"/> YES <input type="radio"/> NO	If yes, Category 1.
	Question 6. Bogs	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 7. Fens	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
Question 10. Oak Openings	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	5.5	
	Metric 4. Habitat	4.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	1	
	TOTAL SCORE	12	Category based on score breakpoints 1

**Complete Wetland Categorization Worksheet**



**This foregoing document was electronically filed with the Public Utilities**

**Commission of Ohio Docketing Information System on**

**11/14/2018 6:58:33 PM**

**in**

**Case No(s). 18-1601-GA-BLN**

Summary: Letter of Notification Attachment J (Part 3b of 4) electronically filed by Mr. Michael J. Settineri on behalf of Generation Pipeline LLC