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December 24, 2019

Ms. Tanowa Troupe Secretary, Office of Administration Ohio Power Siting Board 180 East Broad Street Columbus, Ohio 43215

RE: Columbia Gas of Ohio, Inc.

Letter of Notification: Marysville Connector Pipeline

OPSB Case No. 19-2148-GA-BLN

Dear Ms. Troupe:

Columbia Gas of Ohio, Inc. is filing the attached Amended Appendix C, which reflects revisions to the Wetland and Waterbody Delineation Report. Please do not hesitate to contact me if you have any questions.

Sincerely,

/s/ Joseph M. Clark

Joseph M. Clark

Sr. Counsel



Marysville Connector Pipeline Project

Wetland and Waterbody Delineation Report

December 20, 2019

Prepared for:

Columbia Gas of Ohio (NiSource) 1021 North Main Street Mansfield, Ohio 44903

Prepared by:

Stantec Consulting Services Inc. 1500 Lake Shore Drive, Suite 100 Columbus, Ohio 43204

Sign-off Sheet

This document entitled Marysville Connector Pipeline Project Wetland and Waterbody Delineation Report was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of Columbia Gas of Ohio/NiSource ((the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by

(signature)

Julie Slater

Reviewed by angla I follows

(signature)

Angela Sjollema

Approved by

(signature)

Matt Teitt

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1.0 INTRODUCTION

1.1 PURPOSE

Columbia Gas of Ohio (COH) plans to construct a new 4.78 mile 12-inch distribution class steel natural gas pipeline and one district regulator station (The Project). The length of the survey corridor is 4.78 miles with a 100 to 300-foot right-of-way (ROW). The Project is located southeast of the City of Marysville, Ohio. The proposed pipeline route begins south of the intersection of Scottslawn Road and Industrial Parkway and runs southeast towards the intersection of U.S. 33 and State Route 42 in Millcreek and Jerome Townships, Union County, Ohio (Appendix A, Figure 1).

Stantec Consulting Services Inc. (Stantec) was retained by COH to conduct a delineation of potential waters of the United States (WOUS), including wetlands, waterbodies, and potentially isolated wetlands within the Project area. The purpose of this delineation was to identify potential jurisdictional features present within the Project area.

Stantec completed the delineation of wetlands and waterbodies on November 20 and December 20, 2019. The information contained in this report reflects the current site conditions that were observed during the field delineation. Datasheets and photographs of features delineated within the Project area are included in Appendices B and C, respectively.

1.2 LOCATION OF PROJECT

The Project is located in the Millcreek and Jerome Townships, Union County, Ohio (Appendix A, Figure 1). The Project area is depicted on the Marysville and Shawnee Hills, Ohio U.S. Geological Survey (USGS) 7.5-minute series topographic maps and the approximate end points of the Project in latitude and longitude coordinates are 40.200590°N, -83.304899°W and 40.175751°N, -83.237832°W, respectively. The Project area is located in the Lower Mill Creek watershed (HUC 12: 050600010604) that drains into the Scioto River and the Sugar Run watershed (HUC 12: 050600011904) that drains to Big Darby Creek.

2.0 METHODS

2.1 WETLAND DELINEATION

Prior to completing the survey, a desktop review of the Project area was conducted using the Marysville and Shawnee Hills, Ohio USGS 7.5 Minute Series topographic maps (Appendix A, Figure 1), U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Survey of Union County, Ohio (USDA, 1975; Appendix A, Figure 2), the National Wetlands Inventory map (USFWS 2019) (Appendix A, Figure 3), and aerial imagery mapping were reviewed to assess the likelihood of occurrence and probable location of wetlands and waterbodies within the Project area.

Following this desktop review, Stantec conducted field surveys within the Project area on November 20 and December 20, 2019. Wetland boundaries were assessed using the "Routine On-site Determination Method" as described in the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual (USACE Environmental Laboratory 1987) and



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the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (USACE 2010). As of August 17, 1991, the USACE was directed to utilize the USACE Wetland Delineation Manual (USACE Environmental Laboratory 1987) to identify and delineate wetlands potentially subject to regulation under Section 404 of the Clean Water Act (CWA). Wetlands were classified according to "Classification of Wetlands and Deepwater Habitats of the United States" (Cowardin et al. 1979). In this classification system, wetland habitats are divided into five major systems including: (1) Marine, (2) Estuarine, (3) Lacustrine, (4) Palustrine, and (5) Riverine. Each of these systems is further divided into subsystems, classes, and subclasses. Vegetative communities were inventoried to assess the dominant plant species in each of four vegetative layers: trees, saplings/shrubs, herbs, and woody vines. The wetland indicator status for each of the dominant species was obtained using the 2016 National Wetland Plant List (Lichvar et al. 2016). The wetland soil indicators were obtained using the Munsell soil-color chart (Munsell Color 2009) and the hydric soil field indicators (USDA, NRCS 2010). The uppermost wetland boundary and sampling points were identified and surveyed using a handheld Global Positioning System (GPS) unit and mapped with Geographical Information System (GIS) software. Stantec collected data and completed relevant assessment forms, which included: USACE Wetland Determination Forms (WDF), and Ohio Rapid Assessment Method v 5.0 forms (ORAM; Mack 2001). Datasheets are provided in Appendix B.

2.2 STREAM DELINEATION

Streams that demonstrated a continuously defined channel (bed and bank), ordinary high water mark (OHWM), and the disturbance of terrestrial vegetation were delineated within the Project area, per the protocols outlined in the USACE's Guidance on Ordinary High Water Mark Identification (Regulatory Guidance Letter, No. 05-05; USACE 2005). Delineated streams were classified as ephemeral, intermittent, or perennial per definition in the Federal Register/Vol. 67, No. 10 (2002). Functional assessment of streams within the Project area was based on completion of the Ohio Environmental Protection Agency's (OEPA) Headwater Habitat Evaluation Index (HHEI; OEPA 2012) and/or Qualitative Habitat Evaluation Index (QHEI; OEPA 2006). Datasheets are provided in Appendix B. The centerline of each waterway, or both banks for streams 15 feet or wider, were identified and surveyed using a sub-meter accurate handheld GPS unit and mapped with GIS software.

2.3 OPEN WATER DELINEATION

Open water boundaries were assessed using the definition described in the "Classification of Wetlands and Deepwater Habitats of the United States" (Cowardin et al. 1979) which includes wetland and deepwater habitats with most of the following characteristics: (1) situated in a topographic depression or a dammed river channel; (2) lacking trees, shrubs, persistent emergents, emergent mosses or lichens with greater than 30 percent areal coverage; and (3) total area exceeds 20 acres (8 hectares [ha]). Similar wetland and deepwater habitats totaling less than 20 acres (8 ha) are also included in the Lacustrine System if an active wave-formed or bedrock shoreline feature makes up most or part of the boundary, or if the water depth in the deepest part of the basin exceeds 6.6 feet (2 meters) at low water (estimated).



3.0 OVERVIEW OF PROJECT AREA

3.1 GEOLOGY AND TOPOGRAPHY

The Project is located in Union County, Ohio and lies within the Till Plains section of the Central Lowlands physiographic province. The Project lies within the Central Ohio Clayey Till Plain region, which is characterized by: (1) a surface of clayey till; (2) well-defined moraines with intervening flat-lying ground moraine and intermorainal lake basins; (3) no boulder belts; (4) silt-, clay-, and till-filled lake basins; and (5) few large streams and limited sand and gravel outwashes. The geology of the region consists of clayey, high-lime Wisconsinan-age till from a northeastern source and lacustrine materials over Lower Paleozoic-age carbonate rocks. The eastern side of the region is more shales. Elevation ranges from 700 – 1,150 feet with moderate relief (ODGS 1998).

3.2 CLIMATE

The average winter temperature in Union County is 29°F, and the average winter daily minimum temperature is 20°F. The average summer temperature is 71°F and the average daily maximum temperature is 83°F. Precipitation in Union County averages 36.58 inches per year but varies widely from year to year. Generally, precipitation is adequate and well distributed, but most frequently occurs from March to August (USDA 1975).

3.3 SOILS

The Soil Survey of Union County, Ohio (USDA 1975) and the Natural Resources Conservation Service (NRCS) Web Soil Survey were consulted to assess soil types within the Project area (USDA, NRCS 2010). A copy of the soil map is included in Appendix A, Figure 2. Soils within the Project area with respective acreages and percentages are included in Table 1. All four soils listed within the Project area were considered to be hydric as shown in Table 1.

Table 1. Soil Types Known to Occur within the Marysville Connector Pipeline Project Area, Union County, Ohio

Union County, Ohio								
Map Unit Symbol	Map Unit Name	Acres in the Project Area	Percent within Project Area	Hydric?				
Blg1A1	Blount silt loam, ground moraine, 0 to 2 percent slopes	68.11	60.3	Yes				
Blg1B1	Blount silt loam, ground moraine, 2 to 4 percent slopes	11.45	10.1	Yes				
Pk	Pewamo silty clay loam, 0 to 1 percent slopes	31.15	27.6	Yes				
We	Wetzel silty clay loam	2.21	2.0	Yes				
	Totals for Project Area:	112.93 acres	100.0%					



4.0 RESULTS

4.1 EXISTING CONDITIONS

Upland habitat within the Project area consists of maintained lawn, maintained right-of-way, developed/urban, old field habitat, early successional habitat, fencerow, cropland, and pasture. The maintained lawn, maintained right-of-way, and pasture habitats consist of Kentucky bluegrass (*Poa pratensis*), common dandelion (*Taraxacum officinale*), great plantain (*Plantago major*), English plantain (*Plantago lanceolata*), Canada thistle (*Cirsium arvense*), wild strawberry (*Fragaria vesca*), Colorado blue spruce (*Picea pungens*), Norway spruce (*Picea abies*), and ground ivy (*Glechoma hederacea*). The old field habitat was dominated by Indian grass (*Sorghastrum nutans*), Canada goldenrod (*Solidago canadensis*), switchgrass (*Panicum virgatum*), Queen Anne's lace (*Daucus carota*), Fuller's teasel (*Dipsacus fullonum*), nodding foxtail (*Setaria faberi*), health aster (*Symphyotrichum ericoides*), and common milkweed (*Asclepias syriaca*). The early successional habitat is dominated by dogwood (*Cornus* sp.) in the shrub layer and Canada goldenrod, ironweed (*Vernonia* sp.), and Queen Anne's lace in the herbaceous layer. The fence row habitat was dominated by shagbark hickory (*Carya ovata*), common hackberry (*Celtis occidentalis*), and white oak (*Quercus alba*). The cropland habitat was dominated by corn (*Zea mays*), soybeans (*Glycene max*), green foxtail, horse nettle (*Solanum carolinense*), and barnyard grass (*Echinochloa crus-galli*).

4.2 WETLAND HABITAT

Four wetlands were identified within the Project area, totaling approximately 0.97 acre (Appendix A, Figure 4). Appendix B contains the WDF and ORAM forms for the wetlands identified within the Project area. Representative photographs of the wetlands are provided in Appendix C. The wetlands are described below and summarized in Table 2.

Wetland 1

Wetland 1 is a palustrine emergent (PEM) wetland approximately 0.79 acres in size within the Project area. The functional assessment (ORAM) of Wetland 1 yielded a score of 32 and identifies this wetland as a Category 2 wetland, indicating it is a wetland of "moderate" quality. Wetland 1 is potentially jurisdictional due to its hydrological connection to Stream 1. Due to the large size of Wetland 1, two wetland sample plots were completed. The WDF for SP01 included a first soil horizon of 2 inches of silty clay loam with a chroma matrix of 10YR3/3. The next 4 inches were silty clay loam with a gley matrix (Gley 1 2.5/10Y) and redox concentrations in the pore linings (5YR4/6), meeting the Loamy Gleyed Matrix (F2). Primary hydrological indicators included surface water, high water table, saturation, and oxidized rhizospheres on living roots. Vegetation identified within the sample plot was dominated by hydrophytic vegetation including narrowleaf cattail (*Typha angustifolia*; OBL).

The WDF for SP03 included a first soil horizon of 3 inches of silty clay loam with low chroma matrix (10YR 3/2) and redox concentrations in pore linings (5YR 5/8) and the matrix (5YR 4/6). The next 7 inches were silty clay loam with a low chroma matrix (10YR 4/1) with redox concentrations in the matrix (5YR 4/6), meeting the Depleted Matrix (F3) hydric soil indicator. Primary hydrological indicators included high water table, saturation, and oxidized rhizospheres on living roots. Vegetation identified within the sample plot was dominated by



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hydrophytic vegetation including reed canary grass (*Phalaris arundinacea;* FACW) and narrowleaf cattail (OBL).

Wetland 2

Wetland 2 is a PEM wetland approximately 0.10 acre in size. The functional assessment (ORAM) of Wetland 2 yielded a score of 25 and identifies this wetland as a Category 1 wetland, indicating it is a wetland of "poor" quality. Wetland 2 is potentially jurisdictional due to its hydrological connection to Streams 2 and 3. A WDF was completed, and the first soil horizon was 10 inches of clay loam with low chroma matrix (10YR 4/2) and redox concentrations in pore linings (5YR 4/6), meeting the Depleted Matrix (F3) hydric soil indicator. Primary hydrological indicators included oxidized rhizospheres on living roots. Vegetation identified within the sample plot was dominated by hydrophytic vegetation including reed canary grass (FACW).

Wetland 3

Wetland 3 is a PEM wetland approximately 0.02 acre in size. The functional assessment (ORAM) of Wetland 3 yielded a score of 15 and identifies this wetland as a Category 1 wetland, indicating it is a wetland of "poor" quality. Wetland 3 is potentially jurisdictional due to its hydrological connection to Stream 4 and Wetland 4 (via upland drainage features). A WDF was completed, and the first soil horizon was 7 inches of clay loam with low chroma matrix (10YR 4/2) and redox concentrations in pore linings (5 YR 4/6), meeting the Depleted Matrix (F3) hydric soil indicator. Primary hydrological indicators included surface water, high water table, saturation, and oxidized rhizospheres on living roots. Vegetation identified within the sample plot was dominated by hydrophytic vegetation including narrowleaf cattail (OBL) and reed canary grass (FACW).

Wetland 4

Wetland 4 is a PEM wetland approximately 0.06 acre in size. The functional assessment (ORAM) of Wetland 4 yielded a score of 34 and identifies this wetland as a Category 2 wetland, indicating it is a wetland of "moderate" quality. Wetland 4 is potentially jurisdictional due to its hydrological connection to Stream 4. A WDF was completed, and the first soil horizon was 7 inches of clay loam with low chroma matrix (10YR 4/2) and redox concentrations in pore linings (5YR 4/6), meeting the Depleted Matrix (F3) hydric soil indicator. Primary hydrological indicators included high water table, saturation, and oxidized rhizospheres on living roots. Vegetation identified within the sample plot was dominated by hydrophytic vegetation including reed canary grass (FACW).



Table 2. Potential Wetlands Identified in the Marysville Connector Pipeline Project Area, Union County, Ohio

Wetland Name	Latitude	Longitude	Classification	ORAM Score	ORAM Regulatory Category	Total Acreage in Project Area	
Wetland 1	40.183979	-83.254306	PEM	32	2	0.79	
Wetland 2	40.196261	-83.29241	PEM	25	1	0.10	
Wetland 3	40.199725	-83.3033	PEM	15	1	0.02	
Wetland 4	40.200044	-83.304206	PEM	34	2	0.06	
Total Delineated Wetland							

4.3 STREAM HABITAT

Four streams were identified within the Project area, totaling approximately 757 linear feet (Appendix A, Figure 4). Appendix B contains the QHEI and HHEI datasheets. Representative photographs of the streams are provided in Appendix C. The streams are described below and summarized in Table 3.

Stream 1

Stream 1 is a perennial stream with approximately 200 linear feet within the Project area. The functional assessment (QHEI) of Stream 1 yielded a score of 37, indicating it is a stream of "poor" quality. The stream had a bankfull width of 4 feet and a bankfull depth of 1.5 feet and was flowing at the time of site visit. Substrates observed were primarily hardpan and bedrock. Stream 1 drains into Sugar Run outside the Project area.

Stream 2

Stream 2 is an intermittent stream with approximately 321 linear feet within the Project area. The functional assessment (QHEI) of Stream 2 yielded a score of 41, indicating it is a stream of "poor" quality. The stream had a bankfull width of 3.2 feet and a bankfull depth of 3.5 feet and had isolated shallow pools at the time of site visit. Substrates observed were primarily hardpan and silt. Stream 2 drains into Mill Creek outside the Project area.

Stream 3

Stream 3 is an intermittent stream with approximately 144 linear feet within the Project area. The functional assessment (HHEI) of Stream 3 yielded a score of 31, indicating it is a Modified Class II PHWH stream. The stream had a bankfull width of 3 feet and a bankfull depth of 1.5 feet and had isolated shallow pools at the time of site visit. The substrate observed was primarily hardpan. Stream 3 drains into Wetland 2 outside Project area, which drains into Stream 2.



Stream 4

Stream 4 is an ephemeral stream with approximately 92 linear feet within the Project area. The functional assessment (HHEI) of Stream 4 yielded a score of 21, indicating it is Modified Class I-PHWH stream. The stream had a bankfull width of 3 feet and a bankfull depth of 0.5 feet and had isolated shallow pools at the time of site visit. The substrate observed was primarily hardpan. Stream 4 drains into Wetland 4 within the Project area.

Table 3. Potential Streams Identified in the Marysville Connector Pipeline Project Area, Union County, Ohio

Stream Name	Latitude	Longitude	OHWM Width (feet)	OHWM Depth (feet)	Classification	Evaluation Method	Score	Total Linear Feet in Project Area
Stream 1	40.179487	-83.249033	3	1.5	Perennial	QHEI	37	200
Stream 2	40.195947	-83.291216	2	0.5	Intermittent	QHEI	41	321
Stream 3	40.196278	-83.297254	2	0.5	Intermittent	HHEI	31	144
Stream 4	40.199952	-83.304342	2.5	0.3	Ephemeral	HHEI	21	92
Total Linear Footage in Project Area							757	

5.0 CONCLUSION

Stantec conducted a delineation of potential WOUS within the Project area located in the Millcreek and Jerome townships, Union County, Ohio. The purpose and objective of the wetland and waterbody delineation was to identify the extent and spatial arrangement of potential jurisdictional wetlands and waterbodies within the Project area. Four potentially jurisdictional wetlands and four potentially jurisdictional streams were identified within the Project area. A total of approximately 0.85 acre of delineated Category 2 PEM wetlands and 0.12 acre of delineated Category 1 PEM wetlands were identified in the Project area. A total of 200 linear feet of perennial stream, 465 linear feet of intermittent stream, and 92 linear feet of ephemeral stream for a total length of 757 linear feet of potentially jurisdictional stream were identified within the Project area.

Stantec's opinion regarding the presence/absence of jurisdictional WOUS and isolated wetlands is preliminary. Only the USACE can provide an official determination of the presence and extent of jurisdictional WOUS. Wetlands that are considered WOUS are subject to regulation under Section 404 of the CWA and the jurisdictional regulatory authority lies with the USACE. Additionally, the OEPA has regulatory authority over isolated wetlands under Ohio Revised Code 61111.021. Stantec recommends that Columbia Gas of Ohio/NiSource contact the USACE for final jurisdictional review and concurrence with Stantec's opinion regarding the presence/absence of WOUS within the Project area prior to construction activities associated with this Project.



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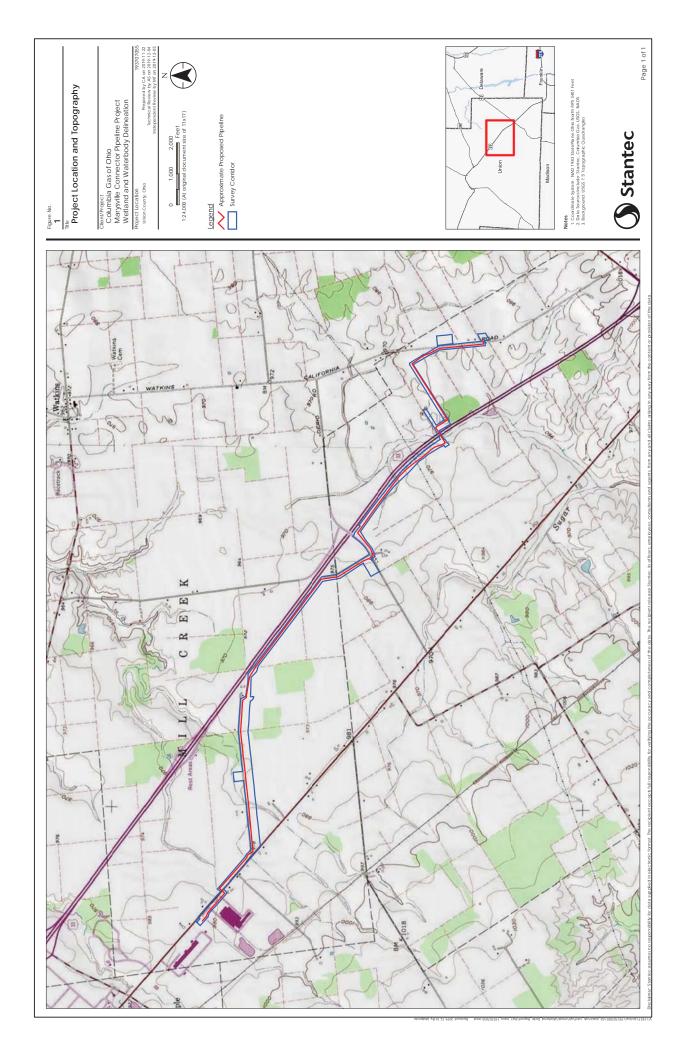




Appendix A FIGURES

A.1 FIGURE 1 – PROJECT LOCATION AND TOPOGRAPHY MAP

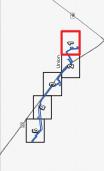


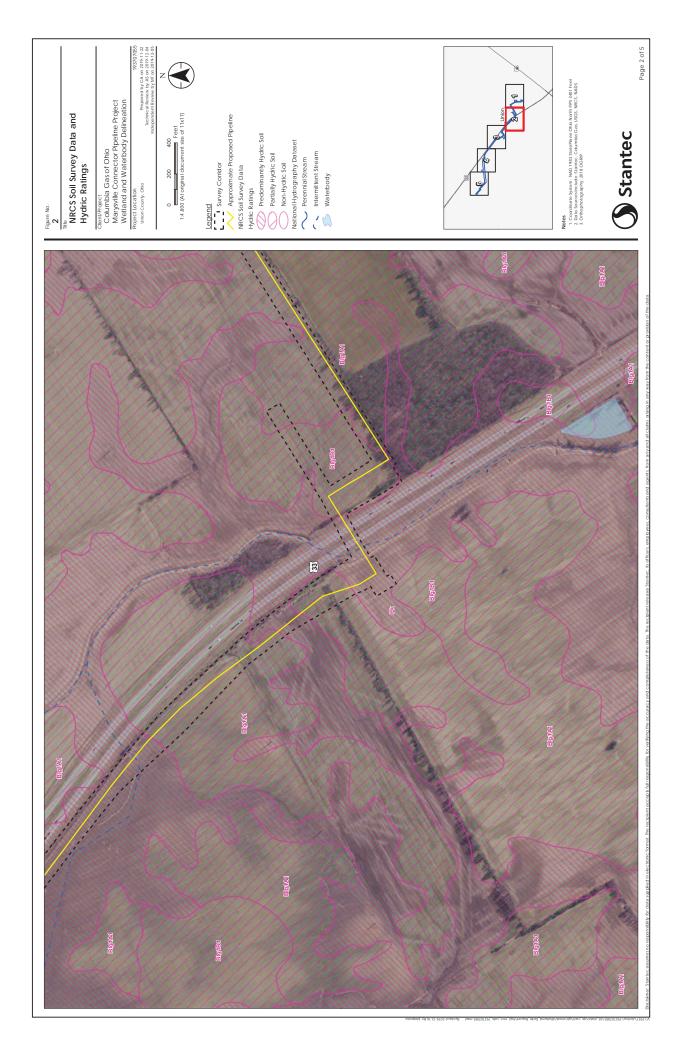


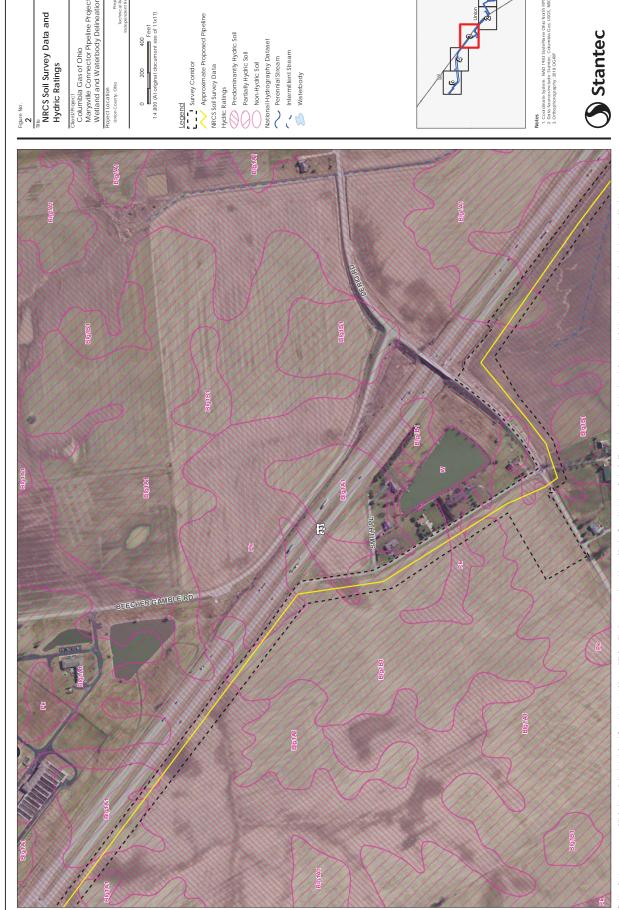
A.2 FIGURE 2 – NRCS SOIL SURVEY DATA AND HYDRIC RATINGS MAP







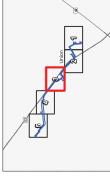




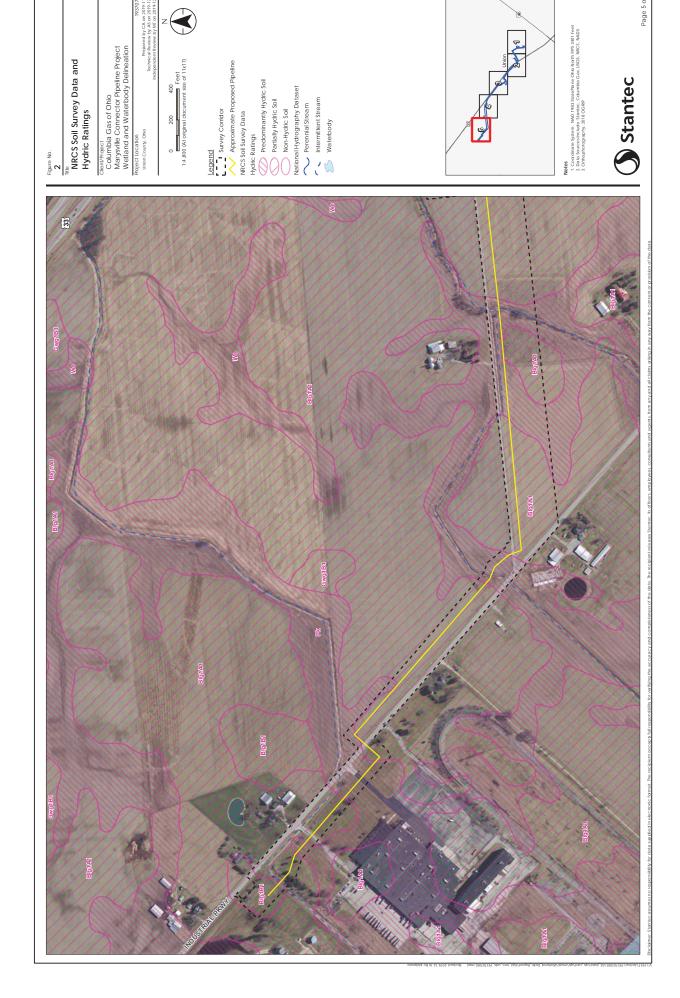
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Wetland and Waterbody Delineation
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Approximate Proposed Pipeline
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Hydric Ratings
Predominantly Hydric Soll
Non-Hydric Soll
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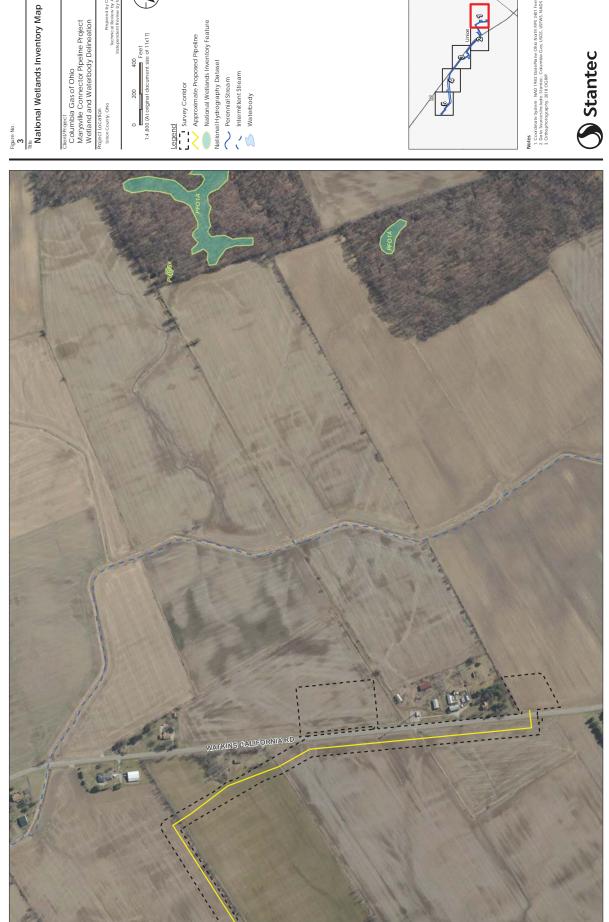






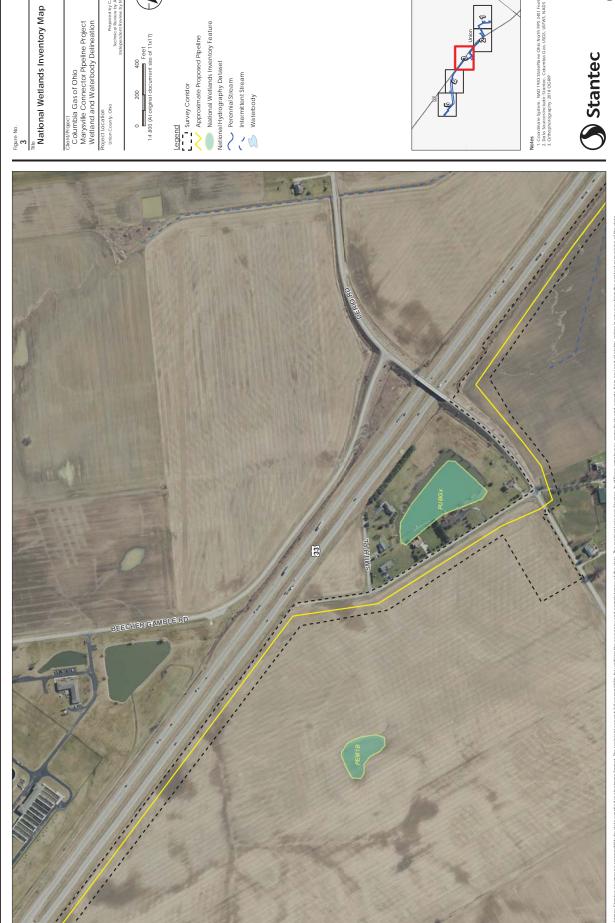
A.3 FIGURE 3 – NATIONAL WETLANDS INVENTORY MAP





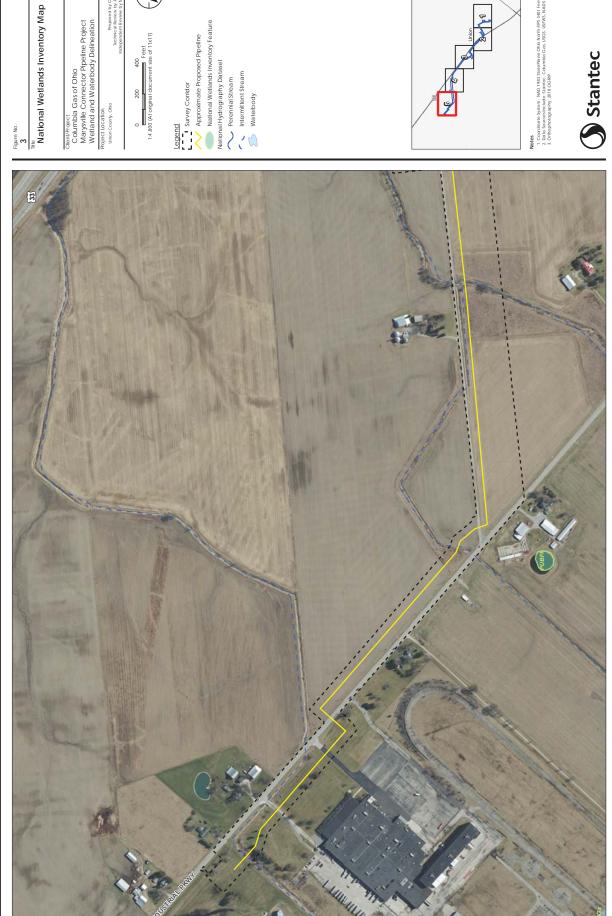
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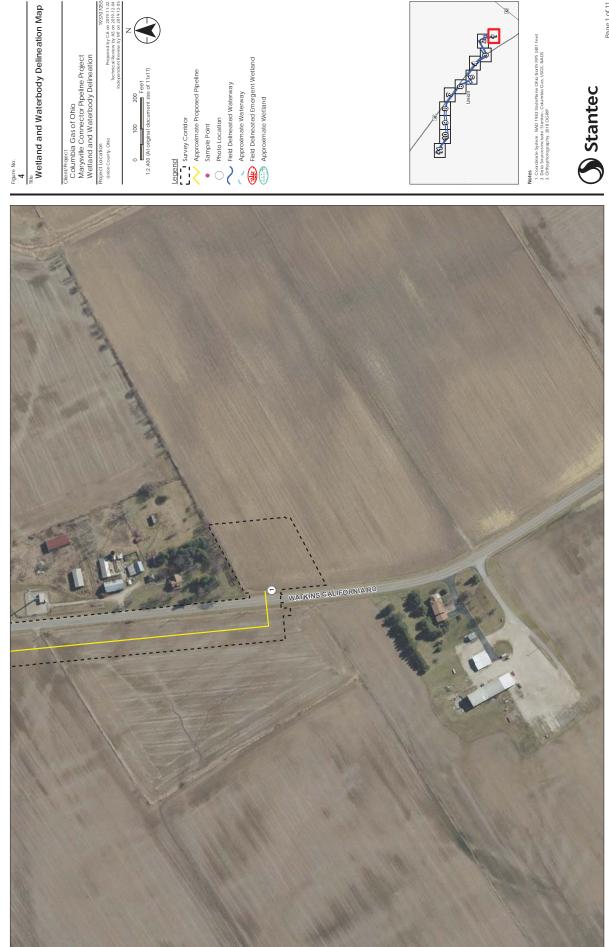
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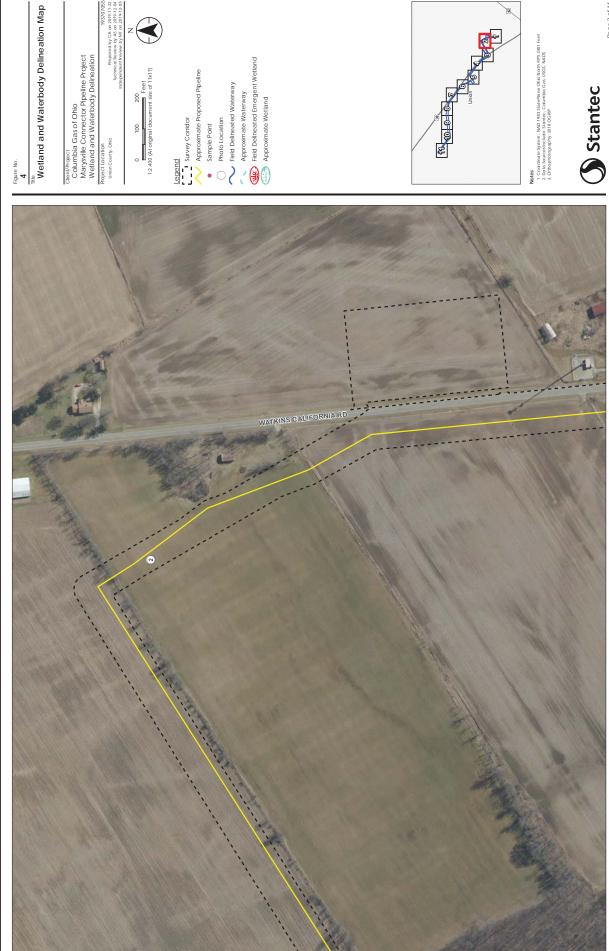


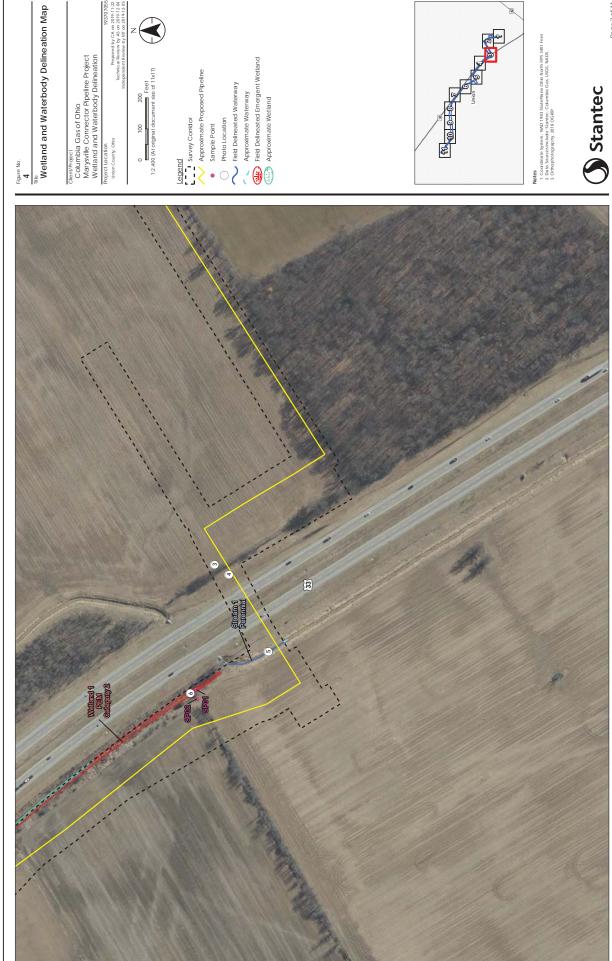
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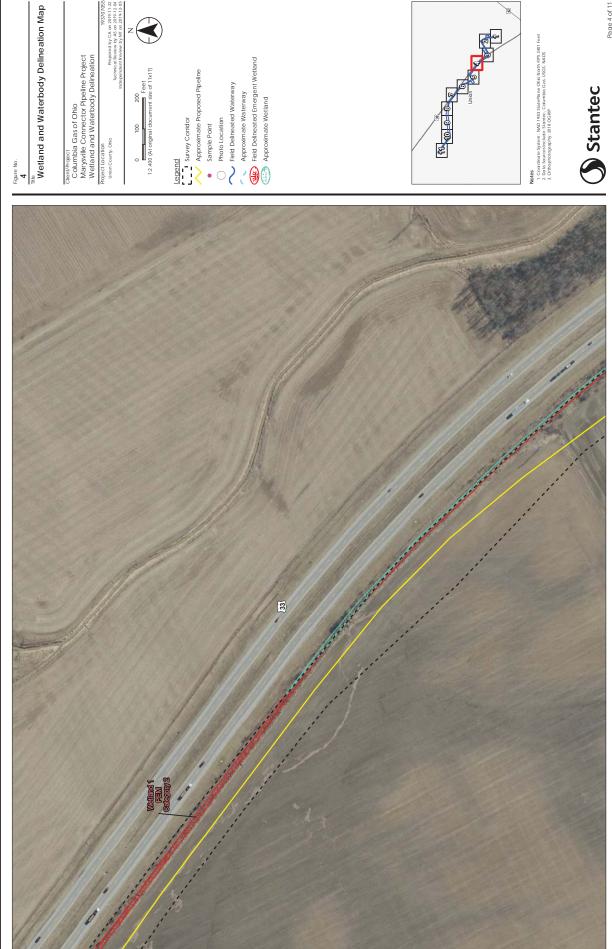
A.4 FIGURE 4 – WETLAND AND WATERBODY DELINEATION MAP



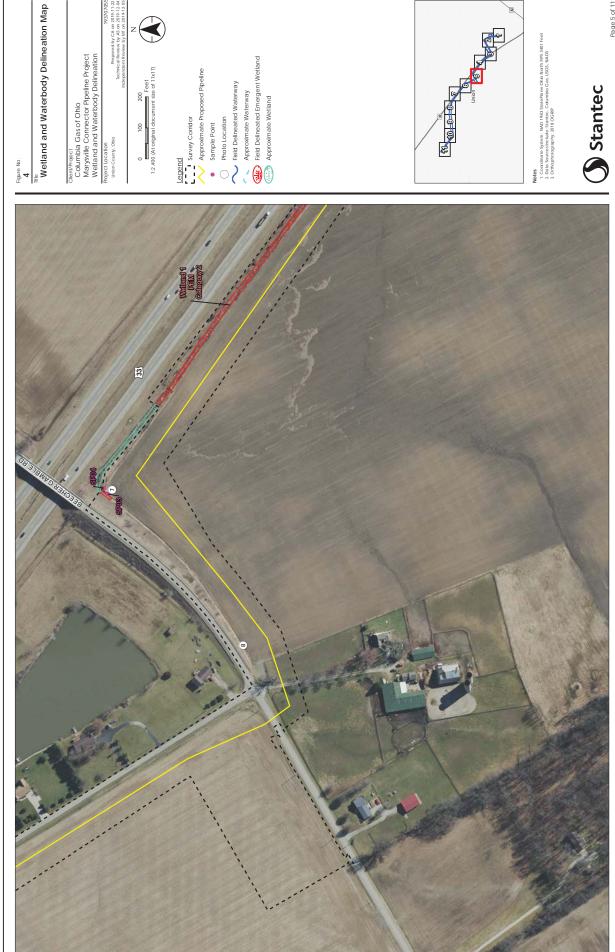


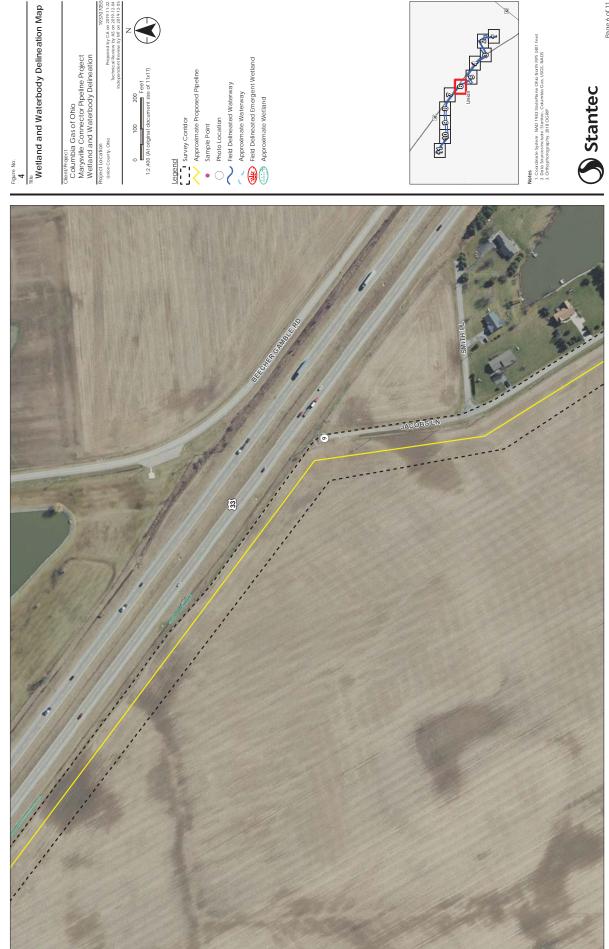


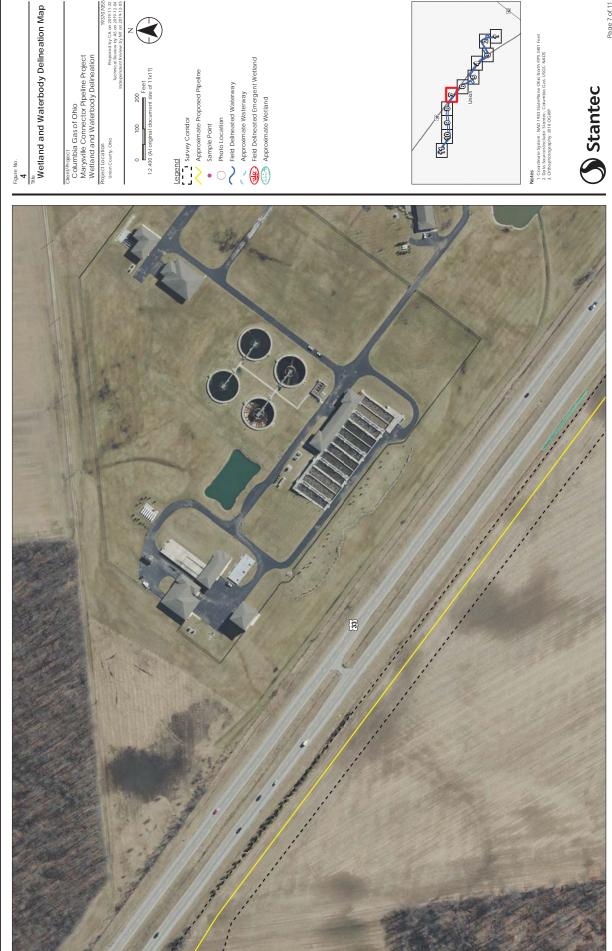
















 $_{\mathrm{Fgue}\ \mathrm{No.}}$ to $_{\mathrm{Tile}}$ Wetland and Waterbody Delineation Map

Legend
Label Survey Corridor
Approximate Proposed Pipeline



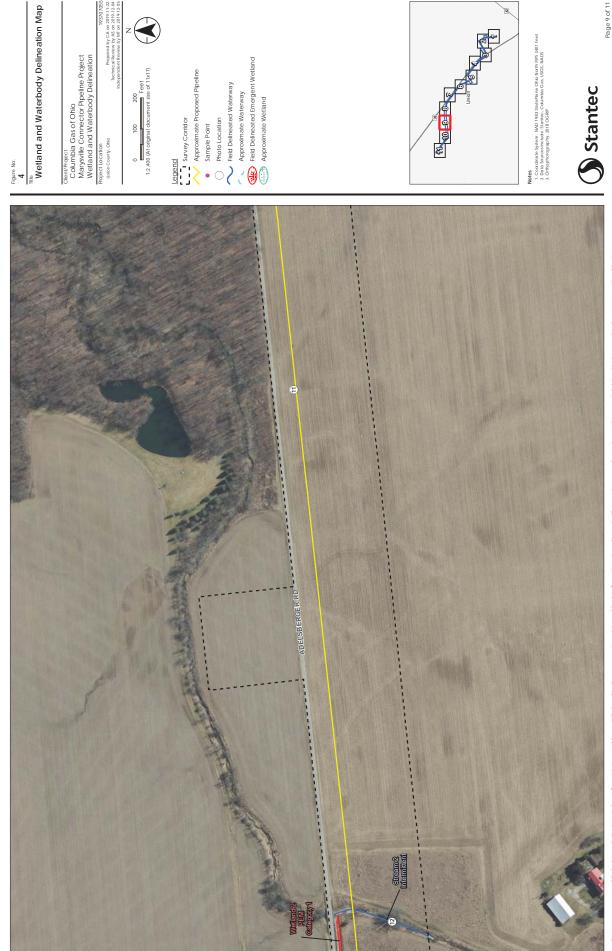




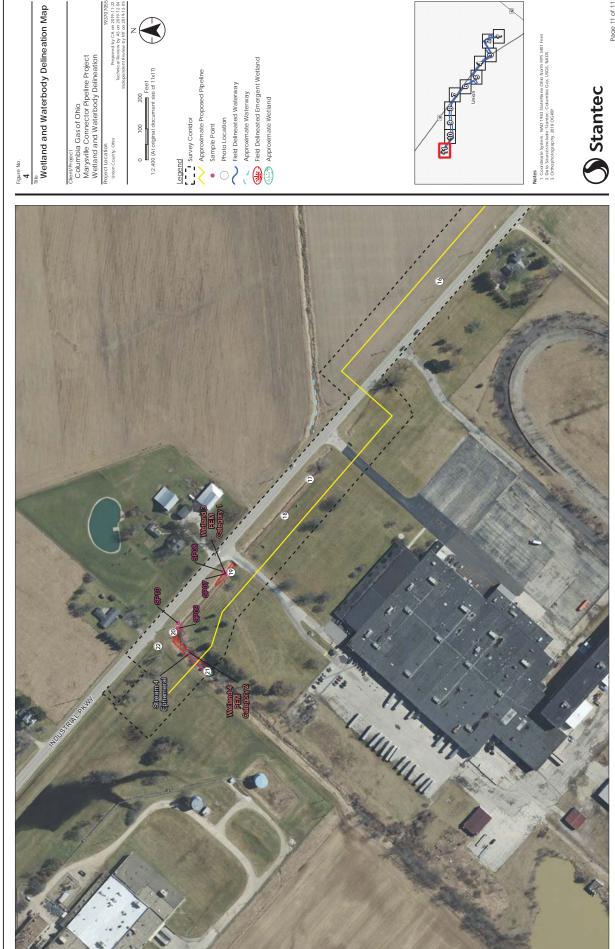


Figure No.
4
Time Wetland and Waterbody Delineation Map

Cleint/Project
Columbia Gas of Chio
Marysville Connector Pipeline Project
Wetland and Waterbody Delineation
Roject Location
Usen County, One

Legend
Legend
Survey Corridor
Approximate Proposed Pipeline







Appendix B DATA FORMS

B.1 WETLAND DETERMINATION FORMS





Applicant:	Calumahia	Can of Ohio					Stantec Project #:	193707055		Date:	11/20/19
	Columbia C			less e		Lore Of				County:	Union
nvestigator #1:					gator #2:	Julie Sla				State:	Ohio
Soil Unit:	-	nt silt loam, ground mora	aine, 0-2%				NWI/WWI Classification:	N/A		Wetland ID:	Wetland 1
andform:	Toeslope					Concav				Sample Point:	
lope (%):	0	Latitude:				-83.249404			WGS 1984	Community ID:	
		litions on the site ty				(If no, expla		✓ Yes	No	Section:	N/A
		or Hydrology 🛭 sig					Are normal circumstar	•	?	Township:	N/A
		or Hydrology 🖳 na	iturally pr	oblemati	c?		Yes	N∋		Range:	N/A Dir: N
UMMARY OF											
lydrophytic Ve				Yes				Hydric Soils			✓ Yes □
Vetland Hydrol	ogy Present	?		Yes	□ No			Is This Sam	pling Point	Within A Wetl	and? • Yes •
Remarks:											
YDROLOGY						\					
		ators (Check here i	findicato	ors are no	ot presen	t 🗆):			Casandan		
Primary:		Water			R9 - Wate	er-Stained	Leaves		Secondary:	<u>:</u> B6 - Surface So	nil Cracks
✓	A2 - High Wa					iatic Fauna				B10 - Drainage	
	A3 - Saturation	on			B14 - True	e Aquatic l	Plants			C2 - Dry-Seaso	on Water Table
	B1 - Water M					ogen Sulfi				C8 - Crayfish B	
	B2 - Sedimer B3 - Drift Dep						spheres on Living Roots educed Iron				เ Visible on Aerial Imaoู - Stressed Plants
0	B4 - Algal Ma						educed from duction in Tilled Soils		_	D1 - Stunted or D2 - Geomorph	
	B5 - Iron Dep					Muck Surf			2	D5 - FAC-Neuti	
	B7 - Inundation	on Visible on Aerial Im			D9 - Gaug	ge or Well	Data				
	B8 - Sparsely	Vegetated Concave S	Surface		Other (Ex	plain in Re	emarks)				
ield Observat	tions:										
			Depth:	5	(in.)			M-41			Yes - No
Surface Water I	Present?	Yes No	Deptii.	0	(111.)						
		Yes No	Depth:		(in.)			wetiand Hy	drology P	resent?	res - No
Vater Table Pr	esent?			3.5	` '			wetiand Hy	drology Pi	resent?	res o No
Surface Water I Vater Table Pro Saturation Pres	esent? ent?	✓ Yes✓ No✓ Yes✓ No	Depth: Depth:	3.5 0	(in.) (in.)	s inspecti	ons) if available:	wetiand Hy		resent?	res ino
Vater Table Pro Saturation Pres Describe Record	esent? ent?	☑ Yes □ No	Depth: Depth:	3.5 0	(in.) (in.)	s inspecti	ons), if available:	wetiand Hy	N/A	resent?	res o No
Vater Table Pres	esent? ent?	✓ Yes✓ No✓ Yes✓ No	Depth: Depth:	3.5 0	(in.) (in.)	s inspecti	ons), if available:	wetland Hy		resent?	Yes D No
Vater Table Pro Saturation Pres Describe Recordo Remarks:	esent? ent?	✓ Yes✓ No✓ Yes✓ No	Depth: Depth:	3.5 0	(in.) (in.)	s inspecti	ons), if available:	wetiand Hy		resent?	res D No
Vater Table Pro Saturation Pres Describe Recordo Remarks:	esent? eent? ed Data (stre	Yes No Yes No am gauge, monitorin	Depth: Depth: g well, ae	3.5 0 rial photo	(in.) (in.) s, previou	·	,	wetiand Hy		resent?	res D No
Vater Table Pro Saturation Pres Describe Recorde Remarks: OILS Map Unit Name	esent? eent? ed Data (stre	Yes No Yes No am gauge, monitorin	Depth: Depth: g well, ae	3.5 0 rial photos	(in.) (in.) s, previou	2% slope	es		N/A		res D No
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Vater Table Pro Saturation Pres Describe Record Remarks: OILS Map Unit Name Profile Descrip	esent? eent? ed Data (stre	Yes No Yes No am gauge, monitorin	Depth: Depth: g well, ae	3.5 0 rial photo:	(in.) (in.) s, previou praine, 0- indicators.) (Typ	2% slope	PS ion, D=Depletion, RM=Reduced Matrix, CS=C Redc	Covered/Coated Sand Gr DX Features	N/A	Pore Lining, M=Matrix)	Texture
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Additional Remarks:

WETLAND DETERMINATION DATA FORM Midwest Region

Project/Site: Marysville Connector Wetland ID: Wetland 1 Sample Point: SP01 **VEGETATION** (Species identified in all uppercase are non-native species.) **Dominance Test Worksheet** Species Name % Cover Dominant Ind.Status 2. Number of Dominant Species that are OBL, FACW, or FAC: ____1 (A) 3. 4. Total Number of Dominant Species Across All Strata: 1 (B) 5. 6. Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B) 7. Prevalence Index Worksheet 8. --9. ----Total % Cover of: Multiply by: OBL spp. 10. x 1 = --Total Cover = FACW spp. x 2 = x 3 = FAC spp. x 4 = Sapling/Shrub Stratum (Plot size: 15 ft radius) FACU spp. ____ UPL spp. x 5 = 2 Total _____(A) 3. --4. Prevalence Index = B/A = 5. 6. 7. 8. **Hydrophytic Vegetation Indicators:** 9. ☑ Yes □ No Rapid Test for Hydrophytic Vegetation 10. □ No Yes Dominance Test is > 50% Total Cover = Yes □ No Prevalence Index is ≤ 3.0 * □ Yes □ No Morphological Adaptations (Explain) * □ No Herb Stratum (Plot size: 5 ft radius) □ Yes Problem Hydrophytic Vegetation (Explain) * Typha angustifolia OBL 100 * Indicators of hydric soil and wetland hydrology must be 2. present, unless disturbed or problematic. 3. 4. **Definitions of Vegetation Strata:** --5. 6 Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. 10. 11. --Herb - All herbaceous (non-woody) plants, regardless of size, 12 and woody plants less than 3.28 ft. tall. 13. 14. Woody Vines - All woody vines greater than 3.28 ft. in height. 15 Total Cover = Woody Vine Stratum (Plot size: 30 ft radius) 1. 2. Hydrophytic Vegetation Present
Yes No 3. 4. 5. Total Cover = 0 Remarks:



Project/Site:	Marysville (Connector					Stantec Project #:	193707055		Date:	11/20/19	
Applicant:	Columbia G									County:	Union	
Investigator #1:	<u> </u>				igator #2:					State:	Ohio	
Soil Unit:	-	nt silt loam, ground mora	aine, 0-2%				NWI/WWI Classification:	N/A		Wetland ID:	Wetland	1
Landform:	Terrace				al Relief:					Sample Point:		
Slope (%):	0		40.18003		ongitude:			Datum:	WGS 1984	Community ID:	Upland	
Are climatic/hyd	drologic cond	litions on the site ty	pical for	this time	of year?	(If no, expla	ain in remarks)	Yes	No	Section:	N/A	
Are Vegetation	, Soil*,	or Hydrology sig	gnificantly	disturb	ed?		Are normal circumsta	nces present?	?	Township:	N/A	
Are Vegetation	, Soil∗ ,	or Hydrology na	turally pr	oblemat	ic?		 Yes 	No		Range:	N/A	Dir: N/
SUMMARY OF	FINDINGS											
Hydrophytic Veg	getation Pres	sent?		Yes	- No			Hydric Soils	Present?		0	Yes · I
Wetland Hydrol				Yes	• No					Within A Wetla	and?	Yes
Remarks:												
HYDROLOGY												
Wetland Hydr	ology Indica	itors (Check here i	if indicato	re are n	ot presen	t -)•						
Primary:		itors (Oncok norch	iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii	ns arc in	ot presen	.).			Secondary:			
<u>ı ımary.</u>	A1 - Surface	Water			B9 - Wate	r-Stained	Leaves		oecondary.	B6 - Surface So	oil Cracks	
	A2 - High Wa	ter Table			B13 - Aqu	atic Fauna	a			B10 - Drainage		
	A3 - Saturation	on			B14 - True	e Aquatic	Plants			C2 - Dry-Seaso	n Water Tal	ole
	B1 - Water M				C1 - Hydr					C8 - Crayfish B		
	B2 - Sedimer						spheres on Living Roots			C9 - Saturation		
	B3 - Drift Dep B4 - Algal Ma						educed Iron duction in Tilled Soils			D1 - Stunted or D2 - Geomorph		ants
	B5 - Iron Dep				Co - Rece					D5 - FAC-Neutr		
		on Visible on Aerial Im	agery		D9 - Gaug					20 1710 11041	ai root	
		Vegetated Concave S	0 ,		Other (Ex							
Field Observat	tions:											
		. Yes . No	Denth:		(in)							
Surface Water I	Present?	Yes No	Depth:		(in.) (in.)			Wetland Hy	drology Pr	resent? -	Yes -	No
Surface Water I Water Table Pro	Present? esent?	Yes No	Depth:		(in.)			Wetland Hy	drology Pr	resent? -	Yes -	No
Surface Water I Water Table Pro Saturation Pres	Present? esent? sent?	Yes No	Depth: Depth:		(in.) (in.)			Wetland Hy		resent? -	Yes -	No
Surface Water I Water Table Pro Saturation Pres Describe Recorde	Present? esent? sent?	Yes No	Depth: Depth:		(in.) (in.)	s inspecti	ons), if available:	Wetland Hy	drology Pr	resent? -	Yes -	No
Surface Water I Water Table Pro Saturation Pres	Present? esent? sent?	Yes No	Depth: Depth:		(in.) (in.)	s inspecti	ons), if available:	Wetland Hy		resent? -	Yes -	No
Surface Water I Water Table Pro Saturation Pres Describe Recordo Remarks:	Present? esent? sent?	Yes No	Depth: Depth:		(in.) (in.)	s inspecti	ons), if available:	Wetland Hy		resent? -	Yes -	No
Surface Water I Water Table Pro Saturation Pres Describe Recorde	Present? esent? sent?	Yes No	Depth: Depth:		(in.) (in.)	s inspecti	ons), if available:	Wetland Hy		resent? -	Yes -	No
Surface Water I Water Table Pro Saturation Pres Describe Recordo Remarks:	Present? esent? sent? ed Data (stre	Yes No	Depth: Depth: og well, ae	rial photo	(in.) (in.) es, previou		,	Wetland Hy		resent? -	Yes -	No
Surface Water I Water Table Pro Saturation Pres Describe Recordo Remarks: SOILS Map Unit Name	Present? esent? sent? ed Data (stre	* Yes * No * Yes * No am gauge, monitorin	Depth: Depth: g well, ae	rial photo	(in.) (in.) os, previous	2% slope	es		N/A		Yes -	No
Surface Water I Water Table Pro Saturation Pres Describe Recordo Remarks: SOILS Map Unit Name	Present? esent? sent? ed Data (stre	* Yes * No * Yes * No am gauge, monitorin	Depth: Depth: g well, ae	rial photo	(in.) (in.) os, previous oraine, 0-	2% slope	SS Sion, D=Depletion, RM=Reduced Matrix, CS=0		N/A			No
Surface Water I Water Table Pro Saturation Pres Describe Recorde Remarks: SOILS Map Unit Name Profile Descrip	Present? esent? eent? ed Data (stre	" Yes " No " Yes " No am gauge, monitorin Blg1A1 - Blount sill he depth needed to document the in	Depth: Depth: g well, ae	round months the absence of	(in.) (in.) os, previous oraine, 0-	2% slope	SS ition, D=Depletion, RM=Reduced Matrix, CS=C Redo	Covered/Coated Sand Gra	N/A ins; Location: PL=P	ore Lining, M=Matrix)	T T	exture
Surface Water I Water Table Pro Saturation Pres Describe Recorde Remarks: SOILS Map Unit Name Profile Descrip Top Depth	Present? esent? eed Data (stre	" Yes " No " Yes " No am gauge, monitorin Blg1A1 - Blount sil he depth needed to document the in	Depth: Depth: g well, ae t loam, gi dicator or confirm Color	round mente absence of Matrix (Moist)	(in.) (in.) os, previous oraine, 0- indicators.) (Type	2% slope	es tion, D=Depletion, RM=Reduced Matrix, CS=C Redo Color (Moist)	Covered/Coated Sand Gra DX Features %	N/A ins; Location: PL=P. Type	ore Lining, M=Matrix)	Tı (e.g. clay	exture , sand, lo
Surface Water I Water Table Pro Saturation Pres Describe Recordo Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Present? esent? eed Data (stre et Data (stre	" Yes " No " Yes " No am gauge, monitorin Blg1A1 - Blount sil he depth needed to document the in Horizon	Depth: Depth: g well, ae t loam, gi dicator or confirm Color 10YR	round mathematical photos round mathematical photos Matrix (Moist) 3/4	(in.) (in.) os, previous oraine, 0- indicators.) (Type	2% slope	es ion, D=Depletion, RM=Reduced Matrix, CS=C Redo Color (Moist)	Covered/Coated Sand Gra DX Features %	N/A N/A Type	ore Lining, M=Matrix) Location	Tı (e.g. clay	exture /, sand, lo
Surface Water I Water Table Pro Saturation Pres Describe Recordo Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Present? esent? eed Data (stre ction (Describe to	" Yes " No " Yes " No am gauge, monitorin Blg1A1 - Blount sil he depth needed to document the in Horizon	Depth: Depth: g well, ae t loam, gi dicator or confirm Color 10YR	round month the absence of Matrix (Moist)	(in.) (in.) os, previous oraine, 0- indicators.) (Type % 100	2% slope	es ion, D=Depletion, RM=Reduced Matrix, CS=C Red of Color (Moist)	Covered/Coated Sand Gra DX Features %	N/A N/A Type	ore Lining, M=Matrix) Location	Tı (e.g. clay	exture , sand, lc loam
Surface Water I Water Table Pro Saturation Pres Describe Recordo Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Present? esent? eed Data (stre etion (Describe to	" Yes " No " Yes " No am gauge, monitorin Blg1A1 - Blount sill he depth needed to document the in Horizon	Depth: Depth: g well, ae t loam, gi dicator or confirm Color 10YR	round multiple absence of Matrix (Moist)	(in.) (in.) os, previous oraine, 0- indicators.) (Typ % 100	2% slope	ession, D=Depletion, RM=Reduced Matrix, CS=CCOlor (Moist)	Covered/Coated Sand Gra DX Features %	N/A N/A Type	Location	Tı (e.g. clay	exture , sand, lc loam
Surface Water I Water Table Pro Saturation Pres Describe Recordo Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Present? esent? esent? ed Data (stre etion (Describe to	" Yes " No " Yes " No am gauge, monitorin Blg1A1 - Blount sill he depth needed to document the in Horizon	Depth: Depth: g well, ae t loam, gi dicator or confirm Color 10YR	round m the absence of Matrix (Moist) 3/4	(in.)	2% slope	ession, D=Depletion, RM=Reduced Matrix, CS=CCOlor (Moist)	Covered/Coated Sand Gra DX Features %	N/A N/A Type	Location	Tı (e.g. clay	exture r, sand, lc loam
Surface Water I Water Table Pro Saturation Pres Describe Recordo Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Present? esent? eed Data (stre etion (Describe to	" Yes " No " Yes " No am gauge, monitorin Blg1A1 - Blount sill he depth needed to document the in Horizon	Depth: Depth: g well, ae t loam, gi dicator or confirm Color 10YR	round multiple absence of Matrix (Moist)	(in.) (in.) os, previous oraine, 0- indicators.) (Typ % 100	2% slope	ession, D=Depletion, RM=Reduced Matrix, CS=CCOlor (Moist)	Covered/Coated Sand Gra DX Features %	N/A N/A Type	Location	Tı (e.g. clay	exture , sand, lc loam
Surface Water I Water Table Pro Saturation Pres Describe Recordo Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Present? esent? esent? ed Data (stre etion (Describe to	" Yes " No " Yes " No am gauge, monitorin Blg1A1 - Blount sill he depth needed to document the in Horizon	Depth: Depth: g well, ae t loam, gi dicator or confirm Color 10YR	round m the absence of Matrix (Moist) 3/4	(in.)	2% slope	ession, D=Depletion, RM=Reduced Matrix, CS=CCOlor (Moist)	Covered/Coated Sand Gra DX Features %	N/A N/A Type	Location	Tı (e.g. clay	exture r, sand, lc loam
Surface Water I Water Table Pro Saturation Pres Describe Recordo Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Present? esent? esent? ed Data (stre etion (Describe to	" Yes " No " Yes " No am gauge, monitorin Blg1A1 - Blount sill he depth needed to document the in Horizon	Depth: Depth: g well, ae t loam, gi dicator or confirm Color 10YR	round m the absence of Matrix (Moist) 3/4	(in.)	2% slope	ession, D=Depletion, RM=Reduced Matrix, CS=CCOlor (Moist)	Covered/Coated Sand Gra DX Features %	N/A N/A Type	Location	Tı (e.g. clay	exture r, sand, lc loam
Surface Water I Water Table Pro Saturation Pres Describe Recordo Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Present? esent? esent? ed Data (stre prior (Describe to	" Yes " No " Yes " No am gauge, monitorin Blg1A1 - Blount sill he depth needed to document the in Horizon	Depth: Depth: Depth: g well, ae t loam, g: dicator or confirm Color 10YR	round m. the absence of Matrix (Moist) 3/4	(in.)	2% slope	PS Sion, D=Depletion, RM=Reduced Matrix, CS=C Redo Color (Moist)	Covered/Coated Sand Gra DX Features %	N/A Type	Location	Tı (e.g. clay	exture , sand, lo
Surface Water I Water Table Pro Saturation Pres Describe Recordo Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Present? esent? esent? ed Data (stre bition (Describe to	" Yes " No " Yes " No am gauge, monitorin Blg1A1 - Blount sill he depth needed to document the in Horizon	Depth: Depth: g well, ae t loam, gg Color 10YR	round m the absence of Matrix (Moist)	(in.) (in.) (in.) os, previous oraine, 0- indicators.) (Type % 100	2% slope	Color (Moist)	Covered/Coated Sand Gra DX Features %	N/A Type	Location	Tı (e.g. clay	exture , sand, lo loam
Surface Water I Water Table Pro Saturation Pres Describe Recordo Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Present? esent? esent? ed Data (stre bition (Describe to	" Yes " No " Yes " No am gauge, monitorin Blg1A1 - Blount sill he depth needed to document the in Horizon	Depth: Depth: g well, ae t loam, gg Color 10YR	round m the absence of Matrix (Moist)	(in.) (in.) (in.) os, previous oraine, 0- indicators.) (Type % 100	2% slope e: C=Concentral sent *	Redo Color (Moist)	Covered/Coated Sand Gra DX Features %	N/A Type for Problem	Location	Tı (e.g. clay	exture , sand, lo loam
Surface Water I Water Table Pro Saturation Pres Describe Recordo Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Present? esent? esent? ent? ed Data (stre bition (Describe to t) Bottom Depth 20 Soil Field In A1- Histosol A2 - Histic Ep	" Yes " No " Yes " No am gauge, monitorin Blg1A1 - Blount sill he depth needed to document the in Horizon dicators (check he	Depth: Depth: g well, ae t loam, gg Color 10YR	round m the absence of Matrix (Moist)	(in.)	2% slope	Redaction, D=Depletion, RM=Reduced Matrix, CS= Redaction (Moist)	Covered/Coated Sand Gra DX Features %	Type Type	Location Location	(e.g. clay	exture , sand, lo loam
Surface Water I Water Table Pro Saturation Pres Describe Recordo Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Present? esent? esent? ed Data (stre potion (Describe to	" Yes " No " Yes " No am gauge, monitorin Blg1A1 - Blount sill he depth needed to document the in Horizon dicators (check he	Depth: Depth: g well, ae t loam, gg Color 10YR	round m the absence of Matrix (Moist)	(in.)	2% slope E. C=Concentral	Reduced Matrix, CS=C Color (Moist)	Covered/Coated Sand Gra DX Features %	N/A Type for Probler A16 - Coasts S7 - Dark S F12 - Iron-N	Location Location	T. (e.g. clay	exture , sand, lo loam
Surface Water I Water Table Pro Saturation Pres Describe Recordo Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Present? esent? eed Data (stre cent? ed Data (stre cent? cent. cent	" Yes " No " Yes " No am gauge, monitorin Blg1A1 - Blount sil' he depth needed to document the in Horizon dicators (check he bipedon stic	Depth: Depth: g well, ae t loam, gg Color 10YR	round m the absence of Matrix (Moist)	(in.) (in.) (in.) os, previous oraine, 0- indicators.) (Type % 100	2% slope e: C=Concentral sent * y Gleyed y Redox y Redox y Muck M y Muck M	Redor (Moist)	Covered/Coated Sand Gra DX Features %	N/A Type for Probler A16 - Coasts F12 - Iron-M TF12 - Very	Location Locati	T. (e.g. clay	exture , sand, lo loam
Surface Water I Water Table Pro Saturation Pres Describe Recordo Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Present? esent? esent? eed Data (stre bition (Describe to 1 Bottom Depth 20 Soil Field In A1- Histosol A2 - Histic Eg A3 - Black Hi A4 - Hydroge A5 - Stratified	" Yes " No " Yes " No am gauge, monitorin Blg1A1 - Blount sill he depth needed to document the in Horizon dicators (check he bipedon stic n Sulfide	Depth: Depth: g well, ae t loam, gg Color 10YR	round m the absence of Matrix (Moist)	(in.)	2% sloppe: C=Concentral	Redor (Moist)	Covered/Coated Sand Gra DX Features %	N/A Type for Probler A16 - Coasts F12 - Iron-M TF12 - Very	Location Location	T. (e.g. clay	exture , sand, lo loam
Surface Water I Water Table Pro Saturation Pres Describe Recordo Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Present? esent? esent? eed Data (stre bion (Describe to	" Yes " No " Yes " No am gauge, monitorin Blg1A1 - Blount sill he depth needed to document the in Horizon dicators (check here) pipedon still n Sulfide it Layers uck	Depth: Depth: Depth: g well, ae t loam, gg dicator or confirm Color 10YR ere if indic	round m the absence of Matrix (Moist)	(in.)	2% sloppes: C=Concentral	Redo Color (Moist)	Covered/Coated Sand Gra DX Features %	N/A Type for Probler A16 - Coasts F12 - Iron-M TF12 - Very	Location Locati	T. (e.g. clay	exture , sand, lo loam
Surface Water I Water Table Pro Saturation Pres Describe Recordo Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Present? esent? esent? eed Data (stre bition (Describe to	" Yes " No " Yes " No am gauge, monitorin Blg1A1 - Blount sil' he depth needed to document the in Horizon dicators (check he objectors) in Sulfide I Layers uck de Below Dark Surface	Depth: Depth: Depth: g well, ae t loam, gg dicator or confirm Color 10YR ere if indic	round m the absence of Matrix (Moist)	(in.)	2% sloppes: C=Concentral	Reda Color (Moist)	Covered/Coated Sand Gra DX Features %	N/A Type for Probler A16 - Coasts F12 - Iron-M TF12 - Very	Location Locati	T. (e.g. clay	exture , sand, lo loam
Surface Water I Water Table Pro Saturation Pres Describe Recordo Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Present? esent? esent? eed Data (stre potion (Describe to	" Yes " No " Yes " No am gauge, monitorin Blg1A1 - Blount sill he depth needed to document the in Horizon dicators (check he sipedon stic n Sulfide I Layers uck ad Below Dark Surface	Depth: Depth: Depth: g well, ae t loam, gg dicator or confirm Color 10YR ere if indic	round m the absence of Matrix (Moist)	(in.)	2% slope	Reduced Matrix, CS=C Color (Moist)	Covered/Coated Sand Gra DX Features %	N/A Type for Probler A16 - Coasts F12 - Iron-M TF12 - Very	Location Locati	T. (e.g. clay	exture , sand, lo loam
Surface Water I Water Table Pro Saturation Pres Describe Recordo Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Present? esent? esent? eed Data (stre contion (Describe to	" Yes " No " Yes " No am gauge, monitorin Blg1A1 - Blount sil' he depth needed to document the in Horizon dicators (check he bipedon stic n Sulfide I Layers uck de Below Dark Surface luck Mineral	Depth: Depth: Depth: g well, ae t loam, gg dicator or confirm Color 10YR ere if indic	round m the absence of Matrix (Moist)	(in.)	2% slope	Reduced Matrix, CS=C Color (Moist)	Covered/Coated Sand Gra DX Features % Indicators **	N/A Type for Probler A16 - Coast S7 - Dark S F12 - Iron-N TF12 - Very Other (Expla	Location Locati	es urface	exture , sand, lo loam
Surface Water I Water Table Pre Saturation Pres Describe Recorde Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Present? esent? esent? eed Data (stre potion (Describe to	" Yes " No " Yes " No am gauge, monitorin Blg1A1 - Blount sill he depth needed to document the in Horizon dicators (check he bipedon stic n Sulfide I Layers uck de Below Dark Surface luck Mineral cky Peat or Peat	Depth: Depth: Depth: g well, ae t loam, gg dicator or confirm Color 10YR ere if indic	round man the absence of Matrix (Moist) 3/4 cators al	(in.)	2% slope	Reduced Matrix, CS=C Color (Moist)	Covered/Coated Sand Gra DX Features % Indicators 1 Indicators of hydrophyly	N/A Type Type	Location Locati	es urface	exture /, sand, lc loam
Surface Water I Water Table Pre Saturation Pres Describe Recorde Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 NRCS Hydric S	Present? esent? esent? eed Data (stre contion (Describe to	" Yes " No " Yes " No am gauge, monitorin Blg1A1 - Blount sill he depth needed to document the in Horizon dicators (check he bipedon stic n Sulfide I Layers uck de Below Dark Surface luck Mineral cky Peat or Peat	Depth: Depth: Depth: g well, ae t loam, gg dicator or confirm Color 10YR ere if indic	round m the absence of Matrix (Moist)	(in.)	2% slope	Reduced Matrix, CS=C Color (Moist)	Covered/Coated Sand Gra DX Features % Indicators **	N/A Type Type	Location Locati	es urface	exture , sand, lo loam



Wetland ID: Wetland 1 Sample Point: SP02 Project/Site: Marysville Connector **VEGETATION** (Species identified in all uppercase are non-native species.) Tree Stratum (Plot size: 30 ft radius) Dominance Test Worksheet Species Name Ind.Status **FACW** Ulmus americana 13 2. Number of Dominant Species that are OBL, FACW, or FAC: 4 (A) 3. 4. Total Number of Dominant Species Across All Strata: _____5 ___(B) 5. 6. Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B) Prevalence Index Worksheet 8 9. Total % Cover of: Multiply by: OBL spp. _ x 1 = 10 __ x 2 = FACW spp. Total Cover = 13 FAC spp. x 3 = FACU spp. ____ Sapling/Shrub Stratum (Plot size: 15 ft radius) x 4 = Celtis occidentalis FAC UPL spp. x 5= 2. Fraxinus pennsylvanica 10 **FACW** Total (A) 3. Lonicera maackii 10 UPL 4. Prevalence Index = B/A = ___ 5. 6. --7. 8. --**Hydrophytic Vegetation Indicators:** 9. Yes • No Rapid Test for Hydrophytic Vegetation --10 Yes No Dominance Test is > 50% Total Cover = Prevalence Index is ≤ 3.0 * Yes No " No Morphological Adaptations (Explain) * Yes " No Herb Stratum (Plot size: 5 ft radius) Problem Hydrophytic Vegetation (Explain) * Yes Phalaris arundinacea 90 Υ **FACW** * Indicators of hydric soil and wetland hydrology must be 2. present, unless disturbed or problematic. 3. --4. **Definitions of Vegetation Strata:** 5. 6 Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 q __ ft tall 10. --11. Herb - All herbaceous (non-woody) plants, regardless of size, 12 and woody plants less than 3.28 ft. tall. 13 14. Woody Vines - All woody vines greater than 3.28 ft. in height. 15. Total Cover = 90 Woody Vine Stratum (Plot size: 30 ft radius) 1 2. 3. Hydrophytic Vegetation Present · Yes · No 4 ----5.

Additional Remarks:		

Total Cover =

Remarks:

0



Project/Site: Applicant:	Marysville (Connector					Stantec Project #:	193707055		Date:	11/20/19
Anniicant:	Columbia C						Otanico i roject ir.	100707000		County:	Union
Investigator #1:				Investi	gator #2:	Julie Sla	ter			State:	Ohio
Soil Unit:		silty clay loam, 0 to 1 p	arcent slone		gator #2.		IWI/WWI Classification:	N/A		Wetland ID:	Wetland 1
Landform:	Toeslope	siity ciay loam, o to 1 p	crocm stope		al Relief:			14/7		Sample Point:	
Slope (%):	0	L atitude	40.18703		ongitude:		•	Datum:	WGS 1984	Community ID:	
		litions on the site t					in in remarke)	☑ Yes □	No	Section:	N/A
		or Hydrology si				(II 110, expire	Are normal circumsta			Township:	N/A
		or Hydrology = na					✓ Yes	Nə		Range:	N/A Dir: N/A
SUMMARY OF		or riyurology <u> </u>	aturally pr	oblemat	10 :		103	140		Range.	N/A DII. N/A
Hydrophytic Ve		- a m t O		5 Vaa	= Ne			Lludria Caila	Dunnanto		□ Vee □ Ne
, , ,	0			□ Yes	□ No			Hydric Soils		Mithin A Math	☑ Yes □ No
Wetland Hydrol Remarks:	ogy Present	!		- Yes	□ No			is this samp	oling Point	within A wella	and? • Yes • No
Remarks.											
111/2201-001/											
HYDROLOGY											
Wetland Hydro	ology Indica	ators (Check here	if indicate	rs are n	ot presen	t 🗆):					
Primary:									Secondary:		
	A1 - Surface				B9 - Wate					B6 - Surface Sc	
	A2 - High Wa A3 - Saturation				B13 - Aqu B14 - True					B10 - Drainage	
	B1 - Water M			0	C1 - Hydr				_	C2 - Dry-Seaso C8 - Crayfish B	
	B2 - Sedimer			•			spheres on Living Roots				Visible on Aerial Imagery
	B3 - Drift Dep						duced Iron				Stressed Plants
	B4 - Algal Ma	at or Crust			C6 - Rece	nt Iron Re	duction in Tilled Soils			D2 - Geomorph	ic Position
	B5 - Iron Dep				C7 - Thin				3	D5 - FAC-Neutr	ral Test
		on Visible on Aerial In			D9 - Gaug						
	B8 - Sparsely	Vegetated Concave	Surface		Other (Exp	olain in Re	marks)				
Field Observat											
Surface Water	Present?	□ Yes ☑ No	Depth:		(in.)			Wetland Hy	drology Pr	esent?	Yes - No
Water Table Pre	esent?	□ Yes 🗵 No	Depth:		(in.)			Wettand Hy	arology i i	CSCIIC.	105 - 110
Saturation Pres	ent?	□ Yes ☑ No	Depth:		(in.)						
Describe Record	ed Data (stre	am gauge, monitorii	ng well, ae	rial photo	s. previou:	s inspection	ons), if available:		N/A		
Remarks:		a gaage,ee	.9, ao	a. po.c	о, р. оттош	- mopoon	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
ixemaiks.											
COIL C											
SOILS		Die Devene eile	-11	0.4- 4							
Map Unit Name		Pk - Pewamo silty									
Map Unit Name Profile Descrip	otion (Describe to t			the absence of	findicators.) (Type		on, D=Depletion, RM=Reduced Matrix, CS=C		ins; Location: PL=Pe	ore Lining, M=Matrix)	Touton
Map Unit Name Profile Descrip Top	Bottom	he depth needed to document the i	ndicator or confirm	the absence of Matrix	f indicators.) (Type		Redo	ox Features	1	1	Texture
Map Unit Name Profile Descrip Top Depth	Bottom (Describe to to to Depth	he depth needed to document the i	Color	Matrix (Moist)	f indicators.) (Type	e: C=Concentrati	Color (Moist)	ox Features %	Туре	Location	(e.g. clay, sand, loam)
Map Unit Name Profile Descrip Top	Bottom	he depth needed to document the i	ndicator or confirm	the absence of Matrix	f indicators.) (Type	5YR	Color (Moist) 5/8	% 2	Type C	Location PL	(e.g. clay, sand, loam) silty clay loam
Map Unit Name Profile Descrip Top Depth	Bottom (Describe to to to Depth	he depth needed to document the i	Color	Matrix (Moist)	f indicators.) (Type	e: C=Concentrati	Color (Moist) 5/8 4/6	% 2 3	Type C C	Location PL M	(e.g. clay, sand, loam)
Map Unit Name Profile Descrip Top Depth	Bottom Depth 3	he depth needed to document the i Horizon 1	Color	Matrix (Moist)	f indicators.) (Type	5YR	Color (Moist) 5/8	% 2	Type C C	Location PL	(e.g. clay, sand, loam) silty clay loam
Map Unit Name Profile Descrip Top Depth 0	Bottom Depth 3	he depth needed to document the i	Color 10YR	Matrix (Moist)	f indicators.) (Type	5YR 5YR	Color (Moist) 5/8 4/6	% 2 3	Type C C	Location PL M	(e.g. clay, sand, loam) silty clay loam silty clay loam
Map Unit Name Profile Descrip Top Depth 0	Bottom Depth 3	he depth needed to document the i Horizon 1	Color 10YR	Matrix (Moist) 3/2 4/1	% 95	5YR 5YR 5YR 5YR	Color (Moist) 5/8 4/6 4/6	% Features	Type C C	Location PL M M	(e.g. clay, sand, loam) silty clay loam silty clay loam silty clay loam
Map Unit Name Profile Descrip Top Depth 0 3 10	Bottom Depth 3	Horizon 1 2 3	Color 10YR 10YR 10YR	Matrix (Moist) 3/2 4/1 5/1	% 95 85 50	5YR 5YR 5YR 5YR 10YR	Color (Moist) 5/8 4/6 4/6 5/8	% Features % 2 3 15 50	Type C C C C	Location PL M M M	(e.g. clay, sand, loam) silty clay loam silty clay loam silty clay loam clay
Map Unit Name Profile Descrip Top Depth 0 3 10	Depth 3 10 20	Horizon 1 2 3	Color 10YR 10YR 10YR	Matrix (Moist) 3/2 4/1 5/1	% 95 85 50	5YR 5YR 5YR 5YR 10YR	Color (Moist) 5/8 4/6 4/6 5/8	2 3 15 50	Type C C C C	Location PL M M	(e.g. clay, sand, loam) silty clay loam silty clay loam silty clay loam clay
Map Unit Name Profile Descrip Top Depth 0 3 10	Bottom Depth 3	Horizon 1 2 3	Color 10YR 10YR 10YR	Matrix (Moist) 3/2 4/1 5/1	% 95 85 50	5YR 5YR 5YR 5YR 10YR	Color (Moist) 5/8 4/6 4/6 5/8	% 2 3 15 50	Type C C C C	Location PL M M	(e.g. clay, sand, loam) silty clay loam silty clay loam silty clay loam clay
Map Unit Name Profile Descrip Top Depth 0 3 10	btion (Describe to Describe to Depth 3 3 10 20	Horizon 1 2 3	Color 10YR 10YR 10YR	Matrix (Moist) 3/2 4/1 5/1	% 95 85 50	5YR 5YR 5YR 5YR 10YR 	Color (Moist) 5/8 4/6 4/6 5/8	% 2 3 15 50	Type	Location PL M M	(e.g. clay, sand, loam) silty clay loam silty clay loam silty clay loam clay
Map Unit Name Profile Descrip Top Depth 0 3 10 NRCS Hydric :	btion (Describe to Describe to Depth 3 3 10 20 Soil Field In	Horizon 1 2 3	Color 10YR 10YR 10YR	the absence of Matrix (Moist) 3/2 4/1 5/1 cators al	% 95 85 50 re not pre	5YR 5YR 5YR 5YR 10YR sent	Color (Moist) 5/8 4/6 4/6 5/8	2 3 15 50	Type C C C C of for Problem	Location PL M M natic Soils 1	(e.g. clay, sand, loam) silty clay loam silty clay loam silty clay loam clay
Map Unit Name Profile Descrip Top Depth 0 3 10 NRCS Hydric	Dition (Describe to Describe to Depth 3 3 10 20 Soil Field In A1- Histosol	Horizon 1 2 3 dicators (check h	Color 10YR 10YR 10YR	Matrix (Moist) 3/2 4/1 5/1 cators al	% 95 85 50 re not pre S4 - Sand	5YR 5YR 5YR 5YR 10YR sent y Gleyed I	Color (Moist) 5/8 4/6 4/6 5/8	% 2 3 15 50	Type C C C C for Problem	Location PL M M matic Soils Prairie Redox	(e.g. clay, sand, loam) silty clay loam silty clay loam silty clay loam clay
Map Unit Name Profile Descrip Top Depth 0 3 10 NRCS Hydric :	Describe to Describe to Describe to Depth 3 10 20 Soil Field In A1- Histosol A2 - Histic Ep	Horizon 1 2 3 dicators (check hoppedon	Color 10YR 10YR 10YR	the absence of Matrix (Moist) 3/2 4/1 5/1 cators al	% 95 85 50 S4 - Sand S5 - Sand S5 - Sand	5YR 5YR 5YR 10YR sent y Gleyed I y Redox	Color (Moist) 5/8 4/6 4/6 5/8	2 3 15 50	Type C C C C for Problem A16 - Coast S7 - Dark S6	Location PL M M	(e.g. clay, sand, loam) silty clay loam silty clay loam silty clay loam clay
Map Unit Name Profile Descrip Top Depth 0 3 10 NRCS Hydric	Dition (Describe to Long Legislation (Describe to Long Legislation	Horizon 1 2 3 dicators (check hoppedon stic	Color 10YR 10YR 10YR	the absence of Matrix (Moist) 3/2 4/1 5/1 cators all	% 95 85 50 re not pre S4 - Sand	5YR 5YR 5YR 5YR 10YR sent □ y Gleyed I y Redox yeld Matrix	Redo Color (Moist) 5/8 4/6 4/6 5/8): Matrix	2 3 15 50	Type	Location PL M M natic Soils Prairie Redox urface langanese Mass	(e.g. clay, sand, loam) silty clay loam silty clay loam silty clay loam clay
Map Unit Name Profile Descrip Top Depth 0 3 10 NRCS Hydric	Describe to Describe to Describe to Depth 3 10 20 Soil Field In A1- Histosol A2 - Histic Ep	Horizon 1 2 3 dicators (check hoppedon stic	Color 10YR 10YR 10YR	Matrix (Moist) 3/2 4/1 5/1 cators al	% 95 85 50 re not pre \$4 - Sand \$6 - Stript \$6 - Stript	5YR 5YR 5YR 5YR 10YR sent y Gleyed I y Redox y Redox y Redox y Muck M	Redo Color (Moist) 5/8 4/6 4/6 5/8	2 3 15 50 Indicators	Type	Location PL M M	(e.g. clay, sand, loam) silty clay loam silty clay loam silty clay loam clay
Map Unit Name Profile Descrip Top Depth 0 3 10 NRCS Hydric	Dition (Describe to Describe to Depth 3 3 10 20 Soil Field In A1- Histosol A2 - Histic Eç A3 - Black Hi A4 - Hydroge	Horizon 1 2 3 dicators (check holipedon stic n Sulfide	Color 10YR 10YR 10YR	the absence of Matrix (Moist) 3/2 4/1 5/1 cators al	96 95 85 50 re not pre S4 - Sand S5 - Sand S6 - Stripp F1 - Loarr	5YR 5YR 5YR 5YR 10YR y Gleyed I y Reddarix	Redo Color (Moist) 5/8 4/6 4/6 5/8 Watrix	0x Features	Type	Location PL M M	(e.g. clay, sand, loam) silty clay loam silty clay loam silty clay loam clay
Map Unit Name Profile Descrip Top Depth 0 3 10 NRCS Hydric	Bottom Depth 3 10 20 Soil Field In A1- Histosol A2 - Histic E; A3 - Black Hi A4 - Hydroge A5 - Stratiffec A10 - 2 cm M	Horizon 1 2 3 dicators (check holipedon stic n Sulfide	Color 10YR 10YR 10YR ere if indic	the absence of Matrix (Moist) 3/2 4/1 5/1 cators al	% 95 85 50 re not pre \$4 - Sand \$5 - Sand \$5 - Sand \$5 - Sand \$7 - Loam \$7 - Loam \$7 - Loam \$7 - Loam	5YR 5YR 5YR 10YR sent y Gleyed I y Redox y Redox y Gleyed Matrix y Gleyed Matrix y Gleyed Matrix y Gleyed Matrix	Redo Color (Moist) 5/8 4/6 4/6 5/8	0x Features	Type	Location PL M M	(e.g. clay, sand, loam) silty clay loam silty clay loam silty clay loam clay
Map Unit Name Profile Descrip Top Depth 0 3 10 NRCS Hydric	Bottom Depth 3 10 20 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A11 - Deplete A12 - Thick E	Horizon 1 2 3 dicators (check hoppedon stic n Sulfide I Layers luck ad Below Dark Surface Dark Surface)	Color 10YR 10YR 10YR ere if indic	the absence of Matrix (Moist) 3/2 4/1 5/1 cators al	% 95 85 50 re not pre 84 - Sand 85 - Sand 86 - Stript F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	5YR 5YR 5YR 5YR 10YR sent □ y Gleyed I y Redox y Redox y Muck M way Gleyed Matrix by Muck M and the control of the co	Redo Color (Moist) 5/8 4/6 4/6 5/8): Matrix neral Matrix : face Surface	0x Features	Type	Location PL M M	(e.g. clay, sand, loam) silty clay loam silty clay loam silty clay loam clay
Map Unit Name Profile Descrip Top Depth 0 3 10 NRCS Hydric	Bottom Depth 3 10 20 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M	Horizon 1 2 3 dicators (check horized stick in Sulfide di Layers luck de Below Dark Surface luck Mineral	Color 10YR 10YR 10YR ere if indic	the absence of Matrix (Moist) 3/2 4/1 5/1 cators al	% 95 85 50 re not pre 84 - Sand 85 - Sand 86 - Stript F1 - Loam F2 - Loam F3 - Deple F6 - Redo	5YR 5YR 5YR 5YR 10YR sent □ y Gleyed I y Redox y Redox y Muck M way Gleyed Matrix by Muck M and the control of the co	Redo Color (Moist) 5/8 4/6 4/6 5/8	0x Features	Type C C C C sfor Problen A16 - Coast F12 - Iron-N TF12 - Very Other (Expla	Location PL M M M matic Soils Prairie Redox urface langanese Mass Shallow Dark Stain in Remarks)	(e.g. clay, sand, loam) silty clay loam silty clay loam silty clay loam clay ses
Map Unit Name Profile Descrip Top Depth 0 3 10 NRCS Hydric	Bottom Depth 3 10 20 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M	Horizon 1 2 3 dicators (check hoppedon stic n Sulfide I Layers luck ad Below Dark Surface Dark Surface)	Color 10YR 10YR 10YR ere if indic	the absence of Matrix (Moist) 3/2 4/1 5/1 cators al	% 95 85 50 re not pre 84 - Sand 85 - Sand 86 - Stript F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	5YR 5YR 5YR 5YR 10YR sent □ y Gleyed I y Redox y Redox y Muck M way Gleyed Matrix by Muck M and the control of the co	Redo Color (Moist) 5/8 4/6 4/6 5/8	0x Features	Type C C C C sfor Problen A16 - Coast F12 - Iron-N TF12 - Very Other (Expla	Location PL M M M matic Soils Prairie Redox urface langanese Mass Shallow Dark Stain in Remarks)	(e.g. clay, sand, loam) silty clay loam silty clay loam silty clay loam clay
Map Unit Name Profile Descrip Top Depth 0 3 10 NRCS Hydric :	Bottom Depth 3 10 20 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M	Horizon 1 2 3 dicators (check hoppedon stic n Sulfide I Layers luck and Below Dark Surface buck Mineral toky Peat or Peat	Color 10YR 10YR 10YR ere if indic	the absence of Matrix (Moist) 3/2 4/1 5/1 cators al	% 95 85 50 re not pre 84 - Sand 85 - Sand 86 - Stript F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	5YR 5YR 5YR 5YR 10YR sent □ y Gleyed I y Redox y Redox y Muck M way Gleyed Matrix by Muck M and the control of the co	Redo Color (Moist) 5/8 4/6 4/6 5/8	0x Features	Type C C C C	Location PL M M M	(e.g. clay, sand, loam) silty clay loam silty clay loam silty clay loam clay ses
Map Unit Name Profile Descrip Top Depth 0 3 10 NRCS Hydric :	Describe to Descri	Horizon 1 2 3 dicators (check hoppedon stic n Sulfide I Layers luck and Below Dark Surface buck Mineral toky Peat or Peat	Color 10YR 10YR 10YR ere if indic	the absence of Matrix (Moist) 3/2 4/1 5/1 cators at	% 95 85 50 re not pre 84 - Sand 85 - Sand 86 - Stript F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	5YR 5YR 5YR 5YR 10YR sent □ y Gleyed I y Redox y Redox y Muck M way Gleyed Matrix by Muck M and the control of the co	Redo Color (Moist) 5/8 4/6 4/6 5/8	ox Features % 2 3 15 50 Indicators Indicators of hydrophytes	Type C C C C	Location PL M M M	(e.g. clay, sand, loam) silty clay loam silty clay loam silty clay loam clay ses urface
Map Unit Name Profile Descrip Top Depth 0 3 10 NRCS Hydric :	Describe to Descri	Horizon 1 2 3 dicators (check hoppedon stic n Sulfide I Layers luck and Below Dark Surface buck Mineral toky Peat or Peat	Color 10YR 10YR 10YR ere if indic	the absence of Matrix (Moist) 3/2 4/1 5/1 cators at	% 95 85 50 re not pre 84 - Sand 85 - Sand 86 - Stript F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	5YR 5YR 5YR 5YR 10YR sent □ y Gleyed I y Redox y Redox y Muck M way Gleyed Matrix by Muck M and the control of the co	Redo Color (Moist) 5/8 4/6 4/6 5/8	ox Features % 2 3 15 50 Indicators Indicators of hydrophytes	Type C C C C	Location PL M M M	(e.g. clay, sand, loam) silty clay loam silty clay loam silty clay loam clay ses urface
Map Unit Name Profile Descrip Top Depth 0 3 10 NRCS Hydric :	Describe to Descri	Horizon 1 2 3 dicators (check hoppedon stic n Sulfide I Layers luck and Below Dark Surface buck Mineral toky Peat or Peat	Color 10YR 10YR 10YR ere if indic	the absence of Matrix (Moist) 3/2 4/1 5/1 cators at	% 95 85 50 re not pre 84 - Sand 85 - Sand 86 - Stript F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	5YR 5YR 5YR 5YR 10YR sent □ y Gleyed I y Redox y Redox y Muck M way Gleyed Matrix by Muck M and the control of the co	Redo Color (Moist) 5/8 4/6 4/6 5/8	ox Features % 2 3 15 50 Indicators Indicators of hydrophytes	Type C C C C	Location PL M M M	(e.g. clay, sand, loam) silty clay loam silty clay loam silty clay loam clay ses urface
Map Unit Name Profile Descrip Top Depth 0 3 10 NRCS Hydric :	Describe to Descri	Horizon 1 2 3 dicators (check hoppedon stic n Sulfide I Layers luck and Below Dark Surface buck Mineral toky Peat or Peat	Color 10YR 10YR 10YR ere if indic	the absence of Matrix (Moist) 3/2 4/1 5/1 cators at	% 95 85 50 re not pre 84 - Sand 85 - Sand 86 - Stript F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	5YR 5YR 5YR 5YR 10YR sent □ y Gleyed I y Redox y Redox y Muck M way Gleyed Matrix by Muck M and the control of the co	Redo Color (Moist) 5/8 4/6 4/6 5/8	ox Features % 2 3 15 50 Indicators Indicators of hydrophytes	Type C C C C	Location PL M M M	(e.g. clay, sand, loam) silty clay loam silty clay loam silty clay loam clay ses urface

Sample Point: SP03



Marysville Connector

Project/Site:

WETLAND DETERMINATION DATA FORM Midwest Region

Wetland ID: Wetland 1

VEGETATION (Species identified in all uppercase are non-native species.) **Dominance Test Worksheet** Species Name % Cover Dominant Ind.Status 2. Number of Dominant Species that are OBL, FACW, or FAC: _____ (A) 3. 4. Total Number of Dominant Species Across All Strata: 2 (B) 5. __ 6. Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B) 7. Prevalence Index Worksheet 8. --9. ----Total % Cover of: Multiply by: OBL spp. 10. x 1 = --Total Cover = FACW spp. x 2 = x 3 = FAC spp. x 4 = Sapling/Shrub Stratum (Plot size: 15 ft radius) FACU spp. ____ UPL spp. x 5 = 2 Total _____(A) 3. --4. Prevalence Index = B/A = 5. 6. 7. 8. **Hydrophytic Vegetation Indicators:** 9. ☑ Yes □ No Rapid Test for Hydrophytic Vegetation 10. □ No Yes Dominance Test is > 50% Total Cover = Yes □ No Prevalence Index is ≤ 3.0 * □ Yes □ No Morphological Adaptations (Explain) * □ No Herb Stratum (Plot size: 5 ft radius) □ Yes Problem Hydrophytic Vegetation (Explain) * Phalaris arundinacea **FACW** * Indicators of hydric soil and wetland hydrology must be Typha angustifolia 2. Υ OBL present, unless disturbed or problematic. 3. 4. **Definitions of Vegetation Strata:** --5. 6 Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. 10. 11. --Herb - All herbaceous (non-woody) plants, regardless of size, 12 and woody plants less than 3.28 ft. tall. 13. 14. Woody Vines - All woody vines greater than 3.28 ft. in height. 15 Total Cover = Woody Vine Stratum (Plot size: 30 ft radius) 1. 2. Hydrophytic Vegetation Present
Yes No 3. 4. 5. Total Cover = 0 Remarks: Additional Remarks:



Project/Site:	Marysville (Connector					Stantec Project #:	193707055		Date:	11/20/19
Applicant:	•	Gas of Ohio					Otanico i roject #.	199707099		County:	Union
Investigator #1				Invest	igator #2:	Julie Sla	ater			State:	Ohio
Soil Unit:		silty clay loam, 0 t	o 1 percent sl		J		NWI/WWI Classification	n: N/A		Wetland ID:	Wetland 1
Landform:	Terrace				cal Relief:	Linear				Sample Point:	SP04
Slope (%):	0	Latitu	de: 40.18707	L	.ongitude:	-83.259954	l .	Datum:	WGS 1984	Community ID:	: Upland
Are climatic/hyd	drologic cond	ditions on the site	e typical for	this time	e of year?	(If no, expla	ain in remarks)	· Yes ·	No	Section:	N/A
Are Vegetation			significantly naturally pr				Are normal circumsta Yes	ances present′ No	?	Township: Range:	N/A N/A Dir: N/A
SUMMARY OF		orriyarology	naturally pr	оыстна				110		range.	TUTT DII. TUTT
Hydrophytic Ve		sent?		• Yes	s · No			Hydric Soils	Present?		· Yes · No
Wetland Hydro				Yes						Within A Wetl	
Remarks:		vegetation and	soil						. 3		
HYDROLOGY											
Wetland Hydr	ology Indica	ators (Check he	re if indicato	rs are n	ot presen	t -):					
Primary		atoro (orrock no	o ii iiiaioate	no aro n	iot procori	,.			Secondary:		
	A1 - Surface	Water			B9 - Wate	er-Stained	Leaves			B6 - Surface So	oil Cracks
	A2 - High Wa					uatic Faun				B10 - Drainage	
	A3 - Saturation					e Aquatic				C2 - Dry-Seaso	
	B1 - Water M B2 - Sedimer					ogen Sulfi	ae Oaor spheres on Living Roots			C8 - Crayfish B	urrows Visible on Aerial Imagery
	B3 - Drift Dep						educed Iron				Stressed Plants
	B4 - Algal Ma				C6 - Rece	ent Iron Re	duction in Tilled Soils			D2 - Geomorph	nic Position
	B5 - Iron Dep					Muck Sur			8	D5 - FAC-Neuti	ral Test
		on Visible on Aerial Vegetated Conca			,	ge or Well plain in Re					
	Bo - Sparsery	vegetated Conca	ve Suriace		Other (Ex	piairi iri re	marks)				
Field Observa	tions:										
Surface Water		· Yes · No	Depth:		(in.)						
Water Table Pr		Yes No	Depth:		(in.)			Wetland Hy	drology Pr	esent? -	Yes - No
Saturation Pres		Yes No	Depth:		(in.)						
			<u>'</u>		. ,		\		NI/A		
	led Data (stre	am gauge, monito	oring well, ae	riai pnoto	os, previou	s inspecti	ons), if available:		N/A		
Remarks:											
SOILS											
Map Unit Name		Dk Dowomo si	tu olov loon	0 to 1	porcent	longe					
		Pk - Pewamo si					ion, D=Depletion, RM=Reduced Matrix, CS=	0 10 110 10			
Top	Bottom	tne deptn needed to document	the indicator or confirm	Matrix		e: C=Concentra		ox Features	ains; Location: PL=P	ore Lining, M=Matrix)	Texture
•		Horizon	Color	(Moist)	1 %			%	Type	Location	(e.g. clay, sand, loam)
Depth 0	Depth 20	1	10YR	3/2	100		Color (Moist)	70	Type 	Location	, ,
			101K	3/2		 					silty clay loam
	+		+		+	-		+	ł		1
		-									
	Soil Field In	 adicators (check			re not pre	 sent •):		 s for Probler	natic Soils 1	
	Soil Field In	 ndicators (check			re not pre	sent •):	Indicators	For Problem A16 - Coast	 matic Soils ¹ Prairie Redox	
	Soil Field In A1- Histosol A2 - Histic Ep	 ndicators (check			re not pre S4 - Sand S5 - Sand	sent •): Matrix		A16 - Coast S7 - Dark S	natic Soils ¹ Prairie Redox	
	Soil Field In	 ndicators (check pipedon stic			re not pre S4 - Sand S5 - Sand S6 - Strip	sent • dy Gleyed dy Redox): Matrix	Indicators	A16 - Coast S7 - Dark S F12 - Iron-N	 matic Soils ¹ Prairie Redox	
	Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi	 ndicators (check pipedon stic en Sulfide			re not pre S4 - Sand S5 - Sand S6 - Strip F1 - Loan	sent • dy Gleyed dy Redox ped Matrix): Matrix : ineral	Indicators	s for Probler A16 - Coast S7 - Dark S F12 - Iron-N TF12 - Very	natic Soils ¹ Prairie Redox urface Ianganese Mass	
	Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M	adicators (check pipedon stic on Sulfide d Layers luck	here if indi		re not pre S4 - Sand S5 - Sand S6 - Strip F1 - Loan F2 - Loan F3 - Depl	sent • dy Gleyed dy Redox ped Matrix ny Muck M ny Gleyed eted Matri): Matrix : ineral Matrix	Indicators	s for Probler A16 - Coast S7 - Dark S F12 - Iron-N TF12 - Very	natic Soils ¹ Prairie Redox urface Inganese Mass Shallow Dark S	
	Soil Field In A1- Histosol A2 - Histic E; A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete	dicators (check pipedon stic en Sulfide d Layers luck ed Below Dark Surl	here if indi		re not pre S4 - Sand S5 - Sand S6 - Strip F1 - Loan F2 - Loan F3 - Depl F6 - Redo	sent • dy Gleyed dy Redox ped Matrix ny Muck M ny Gleyed eted Matri ox Dark Su): Matrix : ineral Matrix x rface	Indicators	s for Probler A16 - Coast S7 - Dark S F12 - Iron-N TF12 - Very	natic Soils ¹ Prairie Redox urface Inganese Mass Shallow Dark S	
	Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E	adicators (check pipedon stic en Sulfide d Layers luck ed Below Dark Surl Dark Surface	here if indi		re not pre S4 - Sand S5 - Sand S6 - Strip F1 - Loan F2 - Loan F3 - Depl F6 - Redd F7 - Depl	dy Gleyed dy Redox ped Matrix ny Muck M ny Gleyed eted Matri ox Dark Su eted Dark): Matrix ineral Matrix x rface Surface	Indicators	s for Probler A16 - Coast S7 - Dark S F12 - Iron-N TF12 - Very	natic Soils ¹ Prairie Redox urface Inganese Mass Shallow Dark S	
	Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratifiec A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M	adicators (check pipedon stic en Sulfide d Layers luck ed Below Dark Surl Dark Surface	here if indi		re not pre S4 - Sand S5 - Sand S6 - Strip F1 - Loan F2 - Loan F3 - Depl F6 - Redd F7 - Depl	sent • dy Gleyed dy Redox ped Matrix ny Muck M ny Gleyed eted Matri ox Dark Su): Matrix ineral Matrix x rface Surface	Indicators	s for Probler A16 - Coast S7 - Dark S F12 - Iron-N TF12 - Very Other (Expl	natic Soils 1 Prairie Redox urface fanganese Mass Shallow Dark S ain in Remarks)	
NRCS Hydric	Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratifiec A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M	dicators (check pipedon stic on Sulfide d Layers luck ed Below Dark Surf Dark Surface luck Mineral ucky Peat or Peat	here if indi		re not pre S4 - Sand S5 - Sand S6 - Strip F1 - Loan F2 - Loan F3 - Depl F6 - Redd F7 - Depl	dy Gleyed dy Redox ped Matrix ny Muck M ny Gleyed eted Matri ox Dark Su eted Dark): Matrix ineral Matrix x rface Surface	Indicators	F12 - Very Other (Explain to vegetation and w	natic Soils 1 Prairie Redox urface fanganese Mass Shallow Dark S ain in Remarks)	 ses urface
NRCS Hydric	Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M S3 - 5 cm Mu	dicators (check pipedon stic on Sulfide d Layers luck ed Below Dark Surf Dark Surface luck Mineral ucky Peat or Peat	here if indi	cators a	re not pre S4 - Sand S5 - Sand S6 - Strip F1 - Loan F2 - Loan F3 - Depl F6 - Redd F7 - Depl	dy Gleyed dy Redox ped Matrix ny Muck M ny Gleyed eted Matri ox Dark Su eted Dark): Matrix ineral Matrix x rface Surface	Indicators Indicators Indicators Indicators Indicators of hydrophy	F12 - Very Other (Explain to vegetation and w	natic Soils 1 Prairie Redox urface fanganese Mass Shallow Dark S ain in Remarks)	e present, unless disturbed or problematic.
NRCS Hydric	Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M S3 - 5 cm Mu	dicators (check pipedon stic on Sulfide d Layers luck ed Below Dark Surf Dark Surface luck Mineral ucky Peat or Peat	here if indi	cators a	re not pre S4 - Sand S5 - Sand S6 - Strip F1 - Loan F2 - Loan F3 - Depl F6 - Redd F7 - Depl	dy Gleyed dy Redox ped Matrix ny Muck M ny Gleyed eted Matri ox Dark Su eted Dark): Matrix ineral Matrix x rface Surface	Indicators Indicators Indicators Indicators Indicators of hydrophy	F12 - Very Other (Explain to vegetation and w	natic Soils 1 Prairie Redox urface fanganese Mass Shallow Dark S ain in Remarks)	e present, unless disturbed or problematic.
NRCS Hydric	Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M S3 - 5 cm Mu	dicators (check pipedon stic on Sulfide d Layers luck ed Below Dark Surf Dark Surface luck Mineral ucky Peat or Peat	here if indi	cators a	re not pre S4 - Sand S5 - Sand S6 - Strip F1 - Loan F2 - Loan F3 - Depl F6 - Redd F7 - Depl	dy Gleyed dy Redox ped Matrix ny Muck M ny Gleyed eted Matri ox Dark Su eted Dark): Matrix ineral Matrix x rface Surface	Indicators Indicators Indicators Indicators Indicators of hydrophy	F12 - Very Other (Explain to vegetation and w	natic Soils 1 Prairie Redox urface fanganese Mass Shallow Dark S ain in Remarks)	e present, unless disturbed or problematic.
NRCS Hydric Restrictive Layer (If Observed)	Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M S3 - 5 cm Mu	dicators (check pipedon stic on Sulfide d Layers luck ed Below Dark Surf Dark Surface luck Mineral ucky Peat or Peat	here if indi	cators a	re not pre S4 - Sand S5 - Sand S6 - Strip F1 - Loan F2 - Loan F3 - Depl F6 - Redd F7 - Depl	dy Gleyed dy Redox ped Matrix ny Muck M ny Gleyed eted Matri ox Dark Su eted Dark): Matrix ineral Matrix x rface Surface	Indicators Indicators Indicators Indicators Indicators of hydrophy	F12 - Very Other (Explain to vegetation and w	natic Soils 1 Prairie Redox urface fanganese Mass Shallow Dark S ain in Remarks)	e present, unless disturbed or problematic.



Wetland ID: Wetland 1 Sample Point: SP04 Project/Site: Marysville Connector **VEGETATION** (Species identified in all uppercase are non-native species.) Tree Stratum (Plot size: 30 ft radius) **Dominance Test Worksheet** Species Name % Cover Dominant Ind.Status 2. Number of Dominant Species that are OBL, FACW, or FAC: 0 (A) 3. 4. Total Number of Dominant Species Across All Strata: _____(B) 5. 6. Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B) Prevalence Index Worksheet 8 9. Total % Cover of: Multiply by: 10 OBL spp. x 1 = x 2 = Total Cover = FACW spp. FAC spp. x 3 = Sapling/Shrub Stratum (Plot size: 15 ft radius) FACU spp. x 4 = UPL spp. x 5 = 0 2. 3. 100 400 Total (A) (B) 4. 5. Prevalence Index = B/A = 4.000 6. 7. 8. --**Hydrophytic Vegetation Indicators:** 9. Yes No Rapid Test for Hydrophytic Vegetation --10 Yes No Dominance Test is > 50% Total Cover = Prevalence Index is ≤ 3.0 * Yes No * No Morphological Adaptations (Explain) * Yes ° No Herb Stratum (Plot size: 5 ft radius) Problem Hydrophytic Vegetation (Explain) * Yes Setaria faberi 100 Υ **FACU** * Indicators of hydric soil and wetland hydrology must be 2. present, unless disturbed or problematic. 3. --4. **Definitions of Vegetation Strata:** 5. **Tree -** Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height. 6 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 q ft tall 10. 11. Herb - All herbaceous (non-woody) plants, regardless of size, 12 and woody plants less than 3.28 ft. tall. 13 14. Woody Vines - All woody vines greater than 3.28 ft. in height. 15. Total Cover = 100 Woody Vine Stratum (Plot size: 30 ft radius) 1 2. 3. Hydrophytic Vegetation Present · Yes · No 4. --5. Total Cover = 0 Remarks:

Additional Remarks:		



Project/Site:	Marysville						Stantec Project #:	193707055		Date:	11/20/19
Applicant:		Gas of Ohio								County:	Union
Investigator #1:	Michelle Ke	earns		Investi	gator #2:					State:	Ohio
Soil Unit:	Blg1A1 - Blou	nt silt loam, ground mora	aine, 0-2%				NWI/WWI Classification:	N/A		Wetland ID:	Wetland 2
Landform:	Depression	1		Loc	al Relief:	Concav	е			Sample Point:	
Slope (%):	1	Latitude:			ongitude:				WGS 1984	Community ID:	PEM
		ditions on the site ty				(If no, expla	ain in remarks)	✓ Yes	No	Section:	N/A
Are Vegetation	□ , Soil □ ,	or Hydrology D sig	nificantly	/ disturb	ed?		Are normal circumstar	nces present?)	Township:	N/A
		or Hydrology na					Yes	Nə		Range:	N/A Dir: N/A
SUMMARY OF		, 0,	7							<u> </u>	
Hydrophytic Ved		sent?		Yes	□ No			Hydric Soils	Present?		Yes □ No
Wetland Hydrold	0				□ No					Within A Wetl	and? • Yes • No
Remarks:	logy i resem	•		100	110			13 THIS Carri	ning i onit	vvidili 7 t vved	una: 105 110
T tomanto.											
HADBOLOGA											
HYDROLOGY											
Wetland Hydro	ology Indica	ators (Check here if	f indicato	rs are n	ot presen	t 🗆):					
Primary:									Secondary:		
	A1 - Surface				B9 - Wate					B6 - Surface So	
	A2 - High Wa				B13 - Aqu					B10 - Drainage	
	A3 - Saturation B1 - Water M				B14 - True C1 - Hydr					C2 - Dry-Seaso C8 - Crayfish B	
	B2 - Sedime			₹			spheres on Living Roots				Visible on Aerial Imagery
	B3 - Drift De						educed Iron				Stressed Plants
	B4 - Algal Ma						duction in Tilled Soils			D2 - Geomorph	
	B5 - Iron Dep	oosits			C7 - Thin					D5 - FAC-Neutr	al Test
		on Visible on Aerial Ima			D9 - Gaug						
	B8 - Sparsely	y Vegetated Concave S	Surface		Other (Ex	plain in Re	emarks)				
Field Observati											
Surface Water F	Present?	□ Yes ☑ No	Depth:		(in.)			Wetland Hy	drology Pr	ocont2	Yes - No
Water Table Pre	esent?	□ Yes ☑ No	Depth:		(in.)			wetiand my	arology Fi	esent:	163 5 110
Saturation Prese	ent?	□ Yes ☑ No	Depth:		(in.)						
Doscribo Pocordo	od Data (etro	eam gauge, monitoring	a woll ao	rial photo	s proviou	s inspecti	ons) if available:		N/A		
	ed Data (Sile	am gauge, monitoring	g well, ac	nai prioto	s, previou	3 III3pecti	ons), ii avaliable.		14/74		
Remarks:											
0011.0											
SOILS											
Map Unit Name:		Blg1A1 - Blount silt									
		the depth needed to document the inc	dicator or confirm			e: C=Concentral	ion, D=Depletion, RM=Reduced Matrix, CS=C		ns; Location: PL=Pe	ore Lining, M=Matrix)	
Тор	Bottom			Matrix	1			x Features		ı	Texture
Depth	Depth	Horizon	Color	(Moist)	%		Color (Moist)	%	Type	Location	(e.g. clay, sand, loam)
0	10	1	10YR	4/2	95	5YR	4/6	5	С	PL	clay loam
10	16	2	10YR	4/2	90	5YR	5/8	10	С	M	clay loam
			1		†						
					<u> </u>						
NRCS Hydric S	Soil Field In	ndicators (check he	ere if indi						for Problen		
•					S4 - Sand		Matrix			Prairie Redox	
	A1- Histosol				S5 - Sand				S7 - Dark Si		
	A1- Histosol A2 - Histic E										
	A1- Histosol A2 - Histic E A3 - Black H	istic			S6 - Stripp					langanese Mass	
0	A1- Histosol A2 - Histic E A3 - Black Hi A4 - Hydroge	istic en Sulfide			S6 - Stripp F1 - Loam	y Muck M	ineral		TF12 - Very	Shallow Dark S	
0	A1- Histosol A2 - Histic E A3 - Black Hi A4 - Hydroge A5 - Stratifier	istic en Sulfide d Layers		0	S6 - Strip F1 - Loam F2 - Loam	ny Muck M ny Gleyed	ineral Matrix		TF12 - Very		
0	A1- Histosol A2 - Histic E A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm N	istic en Sulfide d Layers luck			S6 - Stripp F1 - Loam F2 - Loam F3 - Deple	ny Muck M ny Gleyed eted Matri:	ineral Matrix K		TF12 - Very	Shallow Dark S	
0 0	A1- Histosol A2 - Histic E A3 - Black Hi A4 - Hydroge A5 - Stratifier A10 - 2 cm N A11 - Deplet	stic en Sulfide d Layers luck ed Below Dark Surface			S6 - Strip F1 - Loam F2 - Loam F3 - Deple F6 - Redo	ny Muck M ny Gleyed eted Matri nx Dark Su	ineral Matrix K rface		TF12 - Very	Shallow Dark S	
	A1- Histosol A2 - Histic E A3 - Black H A4 - Hydroge A5 - Stratifier A10 - 2 cm M A11 - Deplet A12 - Thick I	stic en Sulfide d Layers fuck ed Below Dark Surface Dark Surface			S6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	ny Muck M ny Gleyed eted Matri: nx Dark Su eted Dark	ineral Matrix K rface Surface		TF12 - Very	Shallow Dark S	
	A1- Histosol A2 - Histic E ₁ A3 - Black H A4 - Hydroge A5 - Stratifie A10 - 2 cm M A11 - Deplet A12 - Thick I S1 - Sandy M	stic en Sulfide d Layers fuck ed Below Dark Surface Dark Surface	1		S6 - Strip F1 - Loam F2 - Loam F3 - Deple F6 - Redo	ny Muck M ny Gleyed eted Matri: nx Dark Su eted Dark	ineral Matrix < rface Surface sions	0	TF12 - Very Other (Expla	Shallow Dark S ain in Remarks)	
Restrictive Layer	A1- Histosol A2 - Histic E A3 - Black H A4 - Hydroge A5 - Stratifie A10 - 2 cm N A11 - Deplet A12 - Thick E S1 - Sandy N S3 - 5 cm M	istic en Sulfide d Layers fluck ed Below Dark Surface Dark Surface fluck Mineral ucky Peat or Peat	,		S6 - Strip F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	ny Muck M ny Gleyed eted Matri: nx Dark Su eted Dark	ineral Matrix < rface Surface sions	¹ Indicators of hydrophy	TF12 - Very Other (Expla	Shallow Dark S ain in Remarks)	urface present, unless disturbed or problematic
	A1- Histosol A2 - Histic E ₁ A3 - Black H A4 - Hydroge A5 - Stratifie A10 - 2 cm M A11 - Deplet A12 - Thick I S1 - Sandy M	istic en Sulfide d Layers fluck ed Below Dark Surface Dark Surface fluck Mineral ucky Peat or Peat	,		S6 - Strip F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	ny Muck M ny Gleyed eted Matri: nx Dark Su eted Dark	ineral Matrix < rface Surface sions	0	TF12 - Very Other (Expla	Shallow Dark S ain in Remarks)	urface
Restrictive Layer	A1- Histosol A2 - Histic E A3 - Black H A4 - Hydroge A5 - Stratifie A10 - 2 cm N A11 - Deplet A12 - Thick E S1 - Sandy N S3 - 5 cm M	istic en Sulfide d Layers fluck ed Below Dark Surface Dark Surface fluck Mineral ucky Peat or Peat	,		S6 - Strip F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	ny Muck M ny Gleyed eted Matri: nx Dark Su eted Dark	ineral Matrix < rface Surface sions	¹ Indicators of hydrophy	TF12 - Very Other (Expla	Shallow Dark S ain in Remarks)	urface present, unless disturbed or problematic.
Restrictive Layer (If Observed)	A1- Histosol A2 - Histic E A3 - Black H A4 - Hydroge A5 - Stratifie A10 - 2 cm N A11 - Deplet A12 - Thick E S1 - Sandy N S3 - 5 cm M	istic en Sulfide d Layers fluck ed Below Dark Surface Dark Surface fluck Mineral ucky Peat or Peat	,		S6 - Strip F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	ny Muck M ny Gleyed eted Matri: nx Dark Su eted Dark	ineral Matrix < rface Surface sions	¹ Indicators of hydrophy	TF12 - Very Other (Expla	Shallow Dark S ain in Remarks)	urface present, unless disturbed or problematic.
Restrictive Layer (If Observed)	A1- Histosol A2 - Histic E A3 - Black H A4 - Hydroge A5 - Stratifie A10 - 2 cm N A11 - Deplet A12 - Thick E S1 - Sandy N S3 - 5 cm M	istic en Sulfide d Layers fluck ed Below Dark Surface Dark Surface fluck Mineral ucky Peat or Peat			S6 - Strip F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	ny Muck M ny Gleyed eted Matri: nx Dark Su eted Dark	ineral Matrix < rface Surface sions	¹ Indicators of hydrophy	TF12 - Very Other (Expla	Shallow Dark S ain in Remarks)	urface present, unless disturbed or problematic.
Restrictive Layer (If Observed)	A1- Histosol A2 - Histic E A3 - Black H A4 - Hydroge A5 - Stratifie A10 - 2 cm N A11 - Deplet A12 - Thick E S1 - Sandy N S3 - 5 cm M	istic en Sulfide d Layers fluck ed Below Dark Surface Dark Surface fluck Mineral ucky Peat or Peat	,		S6 - Strip F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	ny Muck M ny Gleyed eted Matri: nx Dark Su eted Dark	ineral Matrix < rface Surface sions	¹ Indicators of hydrophy	TF12 - Very Other (Expla	Shallow Dark S ain in Remarks)	urface present, unless disturbed or problematic.

Sample Point: SP05



Marysville Connector

Project/Site:

WETLAND DETERMINATION DATA FORM Midwest Region

Wetland ID: Wetland 2

VEGETATION (Species identified in all uppercase are non-native species.) **Dominance Test Worksheet** Species Name % Cover Dominant Ind.Status 2. Number of Dominant Species that are OBL, FACW, or FAC: ____1 (A) 3. 4. Total Number of Dominant Species Across All Strata: 1 (B) 5. 6. Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B) 7. Prevalence Index Worksheet 8. 9. ----Total % Cover of: Multiply by: 10. OBL spp. x 1 = --Total Cover = FACW spp. x 2 = x 3 = FAC spp. x 4 = Sapling/Shrub Stratum (Plot size: 15 ft radius) FACU spp. ____ UPL spp. x 5 = 2 Total _____(A) 0 (B) 3. --4. 5. Prevalence Index = B/A = NA 6. 7. 8. **Hydrophytic Vegetation Indicators:** 9. ☑ Yes □ No Rapid Test for Hydrophytic Vegetation 10 □ No Yes Dominance Test is > 50% Total Cover = Yes □ No Prevalence Index is ≤ 3.0 * □ Yes □ No Morphological Adaptations (Explain) * □ No Herb Stratum (Plot size: 5 ft radius) □ Yes Problem Hydrophytic Vegetation (Explain) * Phalaris arundinacea 100 **FACW** * Indicators of hydric soil and wetland hydrology must be 2. present, unless disturbed or problematic. 3. 4. **Definitions of Vegetation Strata:** --5. 6 Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. 10. 11. --Herb - All herbaceous (non-woody) plants, regardless of size, 12 and woody plants less than 3.28 ft. tall. 13. 14. Woody Vines - All woody vines greater than 3.28 ft. in height. 15 Total Cover = Woody Vine Stratum (Plot size: 30 ft radius) 1. 2. Hydrophytic Vegetation Present
Yes No 3. 4. 5. Total Cover = 0 Remarks: Additional Remarks:



Project/Site:	Marysville (Connector					Stantec Project #:	193707055		Date:	11/20/19
Applicant:	Columbia G	as of Ohio					•			County:	Union
Investigator #1				Invocti	igator #2:	Charlia	Allon			State:	Ohio
					yatoi #2.			. NI/A		1	
Soil Unit:	-	nt silt loam, ground moi	raine, 0-2%				NWI/WWI Classification	1: N/A		Wetland ID:	Wetland 2
Landform:	Side slope				al Relief:	Convex				Sample Point:	
Slope (%):	3	Latitude	40.19611	L	ongitude:	-83.29313		Datum:	WGS 1984	Community ID:	Upland
Are climatic/hy	drologic cond	litions on the site t	ypical for	this time	of year?	(If no, expla	ain in remarks)	✓ Yes	No	Section:	N/A
Are Vegetation	□ Soil □	or Hydrology 🖳 si	gnificantl	v disturb	ed?	1	Are normal circumsta	ances present?	>	Township:	N/A
		or Hydrology n					✓ Yes	Nə		Range:	N/A Dir: N/A
		or riyurology – Ti	aturally pi	Oblemat	10 !		- 165	140		Range.	N/A DII. N/A
SUMMARY OF											
Hydrophytic Ve	egetation Pre	sent?		Yes	□ No)		Hydric Soils	Present?		□ Yes □ No
Wetland Hydro	logy Present	?		Yes	✓ No)		Is This Samp	oling Point	Within A Wetla	and? • Yes • No
Remarks:											
HYDROLOGY											
Wetland Hydi	rology Indica	ators (Check here	if indicate	ors are n	ot presen	nt 🛛):					
Primary	<u>/:</u>								Secondary:		
	A1 - Surface	Water			B9 - Wate	er-Stained	Leaves			B6 - Surface So	oil Cracks
	A2 - High Wa	iter Table			B13 - Aqu	uatic Fauna	a			B10 - Drainage	Patterns
	A3 - Saturation	on				e Aquatic I				C2 - Dry-Seaso	n Water Table
	B1 - Water M	arks				rogen Sulfi				C8 - Crayfish B	urrows
	B2 - Sedimer						spheres on Living Roots				Visible on Aerial Imagery
	B3 - Drift Dep						educed Iron				Stressed Plants
	B4 - Algal Ma						duction in Tilled Soils			D2 - Geomorph	
	B5 - Iron Dep					Muck Surf				D5 - FAC-Neutr	ral Test
		on Visible on Aerial In				ge or Well					
	B8 - Sparsely	Vegetated Concave	Surface		Other (Ex	plain in Re	emarks)				
Field Observa	tions:										
Surface Water	Present?	□ Yes ☑ No	Depth:		(in.)					10	V - N
Water Table P	resent?	□ Yes ☑ No	Depth:		(in.)			Wetland Hy	arology Pr	esent?	Yes No
Saturation Pres		□ Yes ☑ No	Depth:		(in.)						
Saturation Fre	SCIII:	- 165 - 110	Бериі.		(111.)						
Describe Record	ded Data (stre	am gauge monitorii	na well ae	rial photo	e previou		\ :£: - - -		N/A		
		ani gaago, monton	ig weil, ac	mai prioto	is, previou	is inspecti	ons), ir avallable:		IN/A		
Remarks:		am gaago, momon	ig well, ac	nai prioto	s, previou	is inspecti	ons), ir available:		IN/A		
Remarks:	`	um gaago, moment	ig weii, ac	mai prioto	s, previou	is inspecti	ons), ir avallable:		N/A		
	,	am gaago, momon	ig weii, ac	mai prioto	s, previou	is inspecti	ons), if available:		N/A		
SOILS	·			·		·	,		N/A		
SOILS Map Unit Name	e:	Blg1A1 - Blount si	It loam, g	round m	oraine, 0-	-2% slope	es				
SOILS Map Unit Name	e:	Blg1A1 - Blount si	It loam, g	round m	oraine, 0-	-2% slope	,	=Covered/Coated Sand Gra		ore Lining, M=Matrix)	
SOILS Map Unit Name	e:	Blg1A1 - Blount si	It loam, g	round m	oraine, 0-	-2% slope	PS D=Depletion, RM=Reduced Matrix, CS=	=Covered/Coated Sand Gra		ore Lining, M=Matrix)	Texture
SOILS Map Unit Name Profile Descri	e: ption (Describe to the Bottom	Blg1A1 - Blount si	It loam, g	round m n the absence of Matrix	oraine, 0-	-2% slope	PS ion, D=Depletion, RM=Reduced Matrix, CS- Red	lox Features	nins; Location: PL=P	T	
SOILS Map Unit Name Profile Descri Top Depth	e: ption (Describe to to Depth	Blg1A1 - Blount si he depth needed to document the i Horizon	It loam, g	round m n the absence of Matrix (Moist)	oraine, 0-	-2% slope	es ion, D=Depletion, RM=Reduced Matrix, CS: Red Color (Moist)	lox Features %	ins; Location: PL=Po	Location	(e.g. clay, sand, loam)
SOILS Map Unit Name Profile Descri Top Depth 0	e: ption (Describe to to Depth 10	Blg1A1 - Blount si he depth needed to document the i Horizon 1	It loam, g ndicator or confirm Color 10YR	round m n the absence of Matrix (Moist) 3/3	oraine, 0- findicators.) (Typ % 100	-2% slope	es ion, D=Depletion, RM=Reduced Matrix, CS- Red Color (Moist)	dox Features % 	Type	Location 	(e.g. clay, sand, loam)
SOILS Map Unit Name Profile Descri Top Depth	e: ption (Describe to to Depth	Blg1A1 - Blount si he depth needed to document the i Horizon	It loam, g ndicator or confirm Color 10YR	round m n the absence of Matrix (Moist)	oraine, 0- indicators.) (Typ % 100	-2% slope	es ion, D=Depletion, RM=Reduced Matrix, CS: Red Color (Moist)	lox Features %	ins; Location: PL=Po	Location	(e.g. clay, sand, loam)
SOILS Map Unit Name Profile Descri Top Depth 0	e: ption (Describe to to Depth 10	Blg1A1 - Blount si he depth needed to document the i Horizon 1	It loam, g ndicator or confirm Color 10YR	round m n the absence of Matrix (Moist) 3/3	oraine, 0- findicators.) (Typ % 100	-2% slope	es ion, D=Depletion, RM=Reduced Matrix, CS- Red Color (Moist)	dox Features % 	Type	Location 	(e.g. clay, sand, loam)
SOILS Map Unit Name Profile Descri Top Depth 0	e: ption (Describe to the Depth 10	Blg1A1 - Blount si he depth needed to document the i Horizon 1	It loam, g ndicator or confirm Color 10YR	round m n the absence of Matrix (Moist) 3/3	oraine, 0- indicators.) (Typ % 100	-2% slope	ion, D=Depletion, RM=Reduced Matrix, CS- Red Color (Moist)	lox Features %	Type	Location 	(e.g. clay, sand, loam)
SOILS Map Unit Name Profile Descri Top Depth 0	e: ption (Describe to to Depth 10	Blg1A1 - Blount si he depth needed to document the i Horizon 1	Color 10YR	round m n the absence of Matrix (Moist) 3/3	oraine, 0- findicators.) (Type % 100	-2% slope ce: C=Concentral	SS ion, D=Depletion, RM=Reduced Matrix, CS- Red Color (Moist)	dox Features %	Type	Location 	(e.g. clay, sand, loam)
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SOILS Map Unit Name Profile Descri Top Depth 0	e: Potion (Describe to 1 Bottom Depth 10	Blg1A1 - Blount si he depth needed to document the i Horizon 1	It loam, g ndicator or confirm Color 10YR	round m n the absence of Matrix (Moist) 3/3	oraine, 0- indicators.) (Tyg % 100	-2% slope	Sesion, D=Depletion, RM=Reduced Matrix, CS: Red Color (Moist)	%	Type	Location	(e.g. clay, sand, loam) clay loam
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SOILS Map Unit Name Profile Descri Top Depth 0 NRCS Hydric	e: Poin (Describe to	Blg1A1 - Blount si he depth needed to document the i Horizon 1 dicators (check h	It loam, g Color 10YR	round m n the absence of Matrix (Moist) 3/3 cators al	oraine, 0- indicators.) (Type % 100 re not pressure says a says as a says	-2% sloppi	Color (Moist)	lox Features % Indicators	Type 5 for Problen	Location	(e.g. clay, sand, loam) clay loam
SOILS Map Unit Name Profile Descri Top Depth 0 NRCS Hydric	e: Poil Field In A1- Histosol A2 - Histic Ep	Blg1A1 - Blount si he depth needed to document the i Horizon 1 dicators (check h	It loam, g Color 10YR	round m n the absence of Matrix (Moist) 3/3 cators al	oraine, 0- (indicators.) (Type % 100 re not pre \$4 - Sanc \$5 - Sanc	-2% slope -2% slope	Color (Moist)	lox Features %	Type	Location	(e.g. clay, sand, loam) clay loam
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SOILS Map Unit Name Profile Descri Top Depth 0 NRCS Hydric	e: Potion (Describe to ID) Bottom Depth 10 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge	Blg1A1 - Blount si he depth needed to document the i Horizon 1 dicators (check hoppedon stic n Sulfide	It loam, g Color 10YR	round m m the absence of Matrix (Moist) 3/3 cators al	oraine, 0- indicators.) (Typ % 100	-2% slopt -2% slopt	Position, D=Depletion, RM=Reduced Matrix, CS: Red Color (Moist)	Section Sect	Type	Location	(e.g. clay, sand, loam) clay loam
SOILS Map Unit Name Profile Descri Top Depth 0 NRCS Hydric	e: Potion (Describe to 1) Bottom Depth 10 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black H A4 - Hydroge A5 - Stratified	Blg1A1 - Blount si he depth needed to document the i Horizon 1 dicators (check h bipedon stic n Sulfide	It loam, g Color 10YR	round m n the absence of Matrix (Moist) 3/3 cators al	oraine, 0- indicators.) (Typ % 100 re not pre \$4 - Sanc \$5 - Sarc \$6 - Strip F1 - Loan F2 - Loan	-2% slopu -2% slopu 	Color (Moist)	dox Features % Indicators	Type	Location	(e.g. clay, sand, loam) clay loam
SOILS Map Unit Name Profile Descri Top Depth 0 NRCS Hydric	Bottom Depth 10 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M	Blg1A1 - Blount si he depth needed to document the i Horizon 1 dicators (check h bipedon stic n Sulfide I Layers luck	It loam, gndicator or confirm Color 10YR ere if indi	round m n the absence of Matrix (Moist) 3/3 cators al	oraine, 0- indicators) (Typ % 100 re not pre \$4 - Sanc \$5 - Sanc \$5 - Sanc \$6 - Strip F1 - Loan F3 - Depl	-2% slope -2% slope -2 c c c c c c c c c c c c c c c c c c c	Color (Moist)	Section Sect	Type	Location	(e.g. clay, sand, loam) clay loam
SOILS Map Unit Name Profile Descri Top Depth O NRCS Hydric	e: Poin (Describe to	Blg1A1 - Blount si he depth needed to document the i Horizon 1 dicators (check h bipedon stic n Sulfide d Layers luck ed Below Dark Surface	It loam, gndicator or confirm Color 10YR ere if indi	round m in the absence of Matrix (Moist) 3/3 cators al	oraine, 0- indicators.) (Typi // 100	-2% slope -2% slope -2	Color (Moist)	Section Sect	Type	Location	(e.g. clay, sand, loam) clay loam
SOILS Map Unit Name Profile Descri Top Depth 0 NRCS Hydric	e: Bottom Depth 10 Soil Field In A1- Histosoi A2 - Histic Er A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick D	Blg1A1 - Blount si he depth needed to document the i Horizon 1 dicators (check hoppedon stic n Sulfide I Layers luck ad Below Dark Surface	It loam, gndicator or confirm Color 10YR ere if indi	round m n the absence of Matrix (Moist) 3/3	oraine, 0- indicators.) (Typ % 100	-2% slopp -2% slopp	Color (Moist)	Section Sect	Type	Location	(e.g. clay, sand, loam) clay loam
SOILS Map Unit Name Profile Descri Top Depth 0 NRCS Hydric	e: Bottom Depth 10 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M	Blg1A1 - Blount si he depth needed to document the i Horizon 1 dicators (check h bipedon stic n Sulfide d Layers luck de Below Dark Surface luck Mineral	It loam, gndicator or confirm Color 10YR ere if indi	round m in the absence of Matrix (Moist) 3/3 cators al	oraine, 0- indicators.) (Typ % 100	-2% slope -2% slope -2	Color (Moist)	dox Features % Indicators	Type	Location	(e.g. clay, sand, loam) clay loam
SOILS Map Unit Name Profile Descri Top Depth 0 NRCS Hydric	e: Bottom Depth 10 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M	Blg1A1 - Blount si he depth needed to document the i Horizon 1 dicators (check hoppedon stic n Sulfide I Layers luck ad Below Dark Surface	It loam, gndicator or confirm Color 10YR ere if indi	round m n the absence of Matrix (Moist) 3/3	oraine, 0- indicators.) (Typ % 100	-2% slopp -2% slopp	Color (Moist)	dox Features % Indicators	Type	Location	(e.g. clay, sand, loam) clay loam
SOILS Map Unit Name Profile Descri Top Depth 0 NRCS Hydric	e: Potion (Describe to 1 Bottom Depth 10 Soil Field In A1- Histosoi A2 - Histic Er A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick D S1 - Sandy M S3 - 5 cm Mu	Blg1A1 - Blount si he depth needed to document the i Horizon 1 dicators (check h bipedon stic n Sulfide I Layers luck ded Below Dark Surface luck Mineral locky Peat or Peat	It loam, gndicator or confirm Color 10YR ere if indi	round m in the absence of Matrix (Moist) 3/3 cators al	oraine, 0- indicators.) (Typ % 100	-2% slopp -2% slopp	Color (Moist)	lox Features % Indicators of hydrophy	Type	Location	(e.g. clay, sand, loam) clay loam
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SOILS Map Unit Name Profile Descri Top Depth 0 NRCS Hydric	e: Potion (Describe to 1 Bottom Depth 10 Soil Field In A1- Histosoi A2 - Histic Er A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick D S1 - Sandy M S3 - 5 cm Mu	Blg1A1 - Blount si he depth needed to document the i Horizon 1 dicators (check h bipedon stic n Sulfide I Layers luck ded Below Dark Surface luck Mineral locky Peat or Peat	It loam, gndicator or confirm Color 10YR ere if indi	round m in the absence of Matrix (Moist) 3/3 cators al	oraine, 0- indicators.) (Typ % 100	-2% slopp -2% slopp	Color (Moist)	lox Features % Indicators of hydrophy	Type	Location	(e.g. clay, sand, loam) clay loam
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SOILS Map Unit Name Profile Descri Top Depth 0 NRCS Hydric Restrictive Layer (If Observed)	e: Potion (Describe to 1 Bottom Depth 10 Soil Field In A1- Histosoi A2 - Histic Er A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick D S1 - Sandy M S3 - 5 cm Mu	Blg1A1 - Blount si he depth needed to document the i Horizon 1 dicators (check h bipedon stic n Sulfide I Layers luck ded Below Dark Surface bluck Mineral locky Peat or Peat	It loam, gndicator or confirm Color 10YR ere if indi	round m in the absence of Matrix (Moist) 3/3 cators al	oraine, 0- indicators.) (Typ % 100	-2% slopp -2% slopp	Color (Moist)	lox Features % Indicators of hydrophy	Type	Location	(e.g. clay, sand, loam) clay loam

Sample Point: SP06



Marysville Connector

Project/Site:

WETLAND DETERMINATION DATA FORM Midwest Region

Wetland ID: Wetland 2

VEGETATION (Species identified in all uppercase are non-native species.) **Dominance Test Worksheet** Species Name % Cover Dominant Ind.Status 2. Number of Dominant Species that are OBL, FACW, or FAC: _____(A) 3. 4. Total Number of Dominant Species Across All Strata: 1 (B) 5. 6. Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B) 7. **Prevalence Index Worksheet** 8. 9. ----Total % Cover of: Multiply by: 10. OBL spp. x 1 = --Total Cover = 0 FACW spp. x 2 = x 3 = 0 FAC spp. x 4 = Sapling/Shrub Stratum (Plot size: 15 ft radius) FACU spp. _ UPL spp. 80 x 5 = 400 2. 3. Total 80 (A) 400 (B) --4. 5. Prevalence Index = B/A = 6. 7. 8. **Hydrophytic Vegetation Indicators:** 9. □ Yes ☑ No Rapid Test for Hydrophytic Vegetation 10 ☑ No. --Yes Dominance Test is > 50% Total Cover = Yes No Prevalence Index is ≤ 3.0 * □ No Morphological Adaptations (Explain) * Yes Herb Stratum (Plot size: 5 ft radius) □ Yes □ No Problem Hydrophytic Vegetation (Explain) * UPL Zea mays 80 * Indicators of hydric soil and wetland hydrology must be 2. present, unless disturbed or problematic. 3. 4. **Definitions of Vegetation Strata:** --5. 6 Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. 10. 11. --Herb - All herbaceous (non-woody) plants, regardless of size, 12 and woody plants less than 3.28 ft. tall. 13. 14. Woody Vines - All woody vines greater than 3.28 ft. in height. 15 Total Cover = 80 Woody Vine Stratum (Plot size: 30 ft radius) 1. 2. Hydrophytic Vegetation Present

Yes

No 3. 4. 5. Total Cover = 0 Remarks: 20% open ground Additional Remarks:



Drojoot/Sito:	Marysville (Connector					Stantec Project #:	193707055		Date:	11/20/19
Project/Site: Applicant:	,	Sas of Ohio					Statilet Frojett #.	193707033		County:	Union
				lmuranti	40.	Charlia	A II a m			,	
Investigator #1:					gator #2:			N1/A		State:	Ohio
Soil Unit:	-	nt silt loam, ground mora	ine, 0-2%				IWI/WWI Classification:	N/A		Wetland ID:	Wetland 3
Landform:	Depression				al Relief:					Sample Point:	
Slope (%):	1	Latitude:			ongitude:				WGS 1934	Community ID:	
		litions on the site ty				(If no, expla	nin in remarks)	✓ Yes	No	Section:	N/A
Are Vegetation	□ , Soil □ ,	or Hydrology D sig	nificantly	disturb	ed?		Are normal circumsta	nces present?	?	Township:	N/A
Are Vegetation	□ , Soil □ ,	or Hydrology na	turally pr	oblemat	ic?		Yes	Nə		Range:	N/A Dir: N/A
SUMMARY OF	FINDINGS										
Hydrophytic Ve		sent?		Yes	□ No			Hydric Soils	Present?		☑ Yes □ No
Wetland Hydro	0			Yes						Within A Wetla	and? Yes No
Remarks:	logy i resent	•		100	140			15 THIS Carry	omig i omi	vvidili 7 v v c d	ana: 165 No
rtomanto.											
LIVEROL COV											
HYDROLOGY											
Wetland Hydr	ology Indica	ators (Check here it	f indicato	rs are n	ot presen	t 🗆):					
Primary					•	•			Secondary:		
	A1 - Surface				B9 - Wate					B6 - Surface Sc	
2	A2 - High Wa					atic Fauna				B10 - Drainage	
0	A3 - Saturation					e Aquatic I				C2 - Dry-Seaso	
	B1 - Water M B2 - Sedimer			2		ogen Sulfi					
	B2 - Sedimer B3 - Drift Der						spheres on Living Roots educed Iron				Visible on Aerial Imagery Stressed Plants
	B4 - Algal Ma						duction in Tilled Soils		0	D2 - Geomorph	
	B5 - Iron Dep					Muck Surf				D5 - FAC-Neutr	
		on Visible on Aerial Ima	agery			ge or Well				DO 1710 11041	1000
		Vegetated Concave S				plain in Re					
Field Observa	tions:										
Surface Water		☑ Yes □ No	Donth	0.5	(in)						
Water Table Pr			Depth:		(in.)			Wetland Hy	drology Pr	esent?	Yes Do
		☑ Yes □ No	Depth:	0	(in.)						
Saturation Pres	sent?	☑ Yes □ No	Depth:	0	(in.)						
Describe Record	ed Data (stre	am gauge monitoring	عد المسد	rial photo			\ 14 H. L.				
		ani gaago, momonii	y wen, ac	παι μποιο	is, previou	s inspecti	ons), if available:		N/A		
Remarks:		arr gaago, montorni	y well, ac	παι μποιο	s, previou	s inspecti	ons), if available:		N/A		
Remarks:		am gaage, memering	g well, ac	nai prioto	is, previou	s inspecti	ons), if available:		N/A		
	,	am gaage, monitoring	g wen, ac	пагрпою	s, previou	s inspecti	ons), if available:		N/A		
SOILS	·			·		·	,		N/A		
SOILS Map Unit Name):	Blg1A1 - Blount silt	loam, gi	round m	oraine, 0-	2% slope	es				
SOILS Map Unit Name Profile Descrip	e: otion (Describe to	Blg1A1 - Blount silt	loam, gi	round m	oraine, 0-	2% slope	SS S D=Depletion, RM=Reduced Matrix, CS=0			ore Lining, M=Matrix)	Touture
SOILS Map Unit Name Profile Descrip Top	e: Stion (Describe to) Bottom	BIg1A1 - Blount silt the depth needed to document the inc	loam, gl	round mente absence of Matrix	oraine, 0-	2% slope	PS ion, D=Depletion, RM=Reduced Matrix, CS=CRED	ox Features	ins; Location: PL=P	T	Texture
SOILS Map Unit Name Profile Descrip Top Depth	e: otion (Describe to Bottom Depth	BIg1A1 - Blount silt the depth needed to document the inc Horizon	loam, gi	round mente absence of Matrix (Moist)	oraine, 0-	2% slope	on, D=Depletion, RM=Reduced Matrix, CS= Reduced Color (Moist)	ox Features %	ins; Location: PL=P	Location	(e.g. clay, sand, loam)
SOILS Map Unit Name Profile Descrip Top Depth 0	e: Dition (Describe to) Bottom Depth 7	BIg1A1 - Blount silt the depth needed to document the inc Horizon 1	loam, gi	round mente absence of Matrix (Moist)	oraine, 0- f indicators.) (Typ	2% slope: C=Concentral	ion, D=Depletion, RM=Reduced Matrix, CS= Reduced Color (Moist) 4/6	% 5	ins; Location: PL=P Type C	Location PL	(e.g. clay, sand, loam)
SOILS Map Unit Name Profile Descrip Top Depth	e: otion (Describe to Bottom Depth	BIg1A1 - Blount silt the depth needed to document the inc Horizon	loam, gi	round mente absence of Matrix (Moist)	oraine, 0-	2% slope	on, D=Depletion, RM=Reduced Matrix, CS= Reduced Color (Moist)	ox Features %	ins; Location: PL=P	Location	(e.g. clay, sand, loam)
SOILS Map Unit Name Profile Descrip Top Depth 0	e: Dition (Describe to) Bottom Depth 7	BIg1A1 - Blount silt the depth needed to document the inc Horizon 1	loam, gi	round mente absence of Matrix (Moist)	oraine, 0- f indicators.) (Typ	2% slope: C=Concentral	ion, D=Depletion, RM=Reduced Matrix, CS= Reduced Color (Moist) 4/6	% 5	ins; Location: PL=P Type C	Location PL	(e.g. clay, sand, loam)
SOILS Map Unit Name Profile Descrip Top Depth 0 7	Describe to Bottom Depth 7 21	BIg1A1 - Blount silt the depth needed to document the inc Horizon 1 2	loam, gi licator or confirm Color 10YR 10YR	round mention the absence of Matrix (Moist) 4/2 4/2	oraine, 0- indicators.) (Type % 95 95	2% slope e: C=Concentrat 5YR 5YR	ion, D=Depletion, RM=Reduced Matrix, CS= Reduced Color (Moist) 4/6 4/6	% 5 5	Type C C	Location PL M	(e.g. clay, sand, loam) clay loam clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 7	Bottom Depth 7 21	BIg1A1 - Blount silt the depth needed to document the inc Horizon 1 2	loam, gi licator or confirm Color 10YR 10YR	round mente absence of Matrix (Moist) 4/2 4/2	oraine, 0- indicators.) (Typ % 95 95	2% slope e: C=Concentrat	Reduced Matrix, CS= Color (Moist) 4/6 4/6	% 5 5	Type C C	Location PL M	(e.g. clay, sand, loam) clay loam clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 7	Bottom Depth 7 21	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2	Color 10YR 10YR	round m. Matrix (Moist) 4/2 4/2	oraine, 0- indicators.) (Typ % 95 95	2% slope e: C=Concentrat	Redo Color (Moist) 4/6 4/6	5 5 	Type C C	Location PL M	(e.g. clay, sand, loam) clay loam clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 7	Bottom Depth 7 21	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2	loam, glicator or confirm Color 10YR 10YR	round matter absence of Matrix (Moist) 4/2 4/2	oraine, 0- indicators.) (Typ % 95 95	2% slope e: C=Concentrat 5YR 5YR	Redor (Moist) 4/6 4/6	5 5 	Type C C	Location PL M	(e.g. clay, sand, loam) clay loam clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 7	Bottom Depth 7 21	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2	Color 10YR 10YR	round m. Matrix (Moist) 4/2 4/2	oraine, 0- indicators.) (Typ % 95 95	2% slope e: C=Concentrat	Redo Color (Moist) 4/6 4/6	5 5 	Type C C	Location PL M	(e.g. clay, sand, loam) clay loam clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 7	Dition (Describe to Depth 7 21	Big1A1 - Blount silt the depth needed to document the inc Horizon 1 2	Color 10YR 10YR	round m. the absence of Matrix (Moist) 4/2 4/2	oraine, 0- indicators.) (Typ % 95 95	2% slope e: C=Concentrat	PSSon, D=Depletion, RM=Reduced Matrix, CS= Redo Color (Moist) 4/6 4/6	% 5 5 -	Type C C	Location PL M	(e.g. clay, sand, loam) clay loam clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 7	Bottom Depth 7 21 Soil Field In	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2	Color 10YR 10YR	round m. the absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- indicators) (Typ % 95 95 re not pre	2% slope e: C=Concentrat	Redor (Moist) 4/6 4/6	% 5 5 -	Type C C s for Probler	Location PL M natic Soils ¹	(e.g. clay, sand, loam) clay loam clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	Bottom Depth 7 21 Soil Field In	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 addicators (check he	Color 10YR 10YR	round m the absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- y y 95 95 95 re not pre	2% slope e: C=Concentral 5YR 5YR sent □	Redor (Moist) 4/6 4/6	% 5 5	Type C C 5 for Probler	Location PL M patic Soils Prairie Redox	(e.g. clay, sand, loam) clay loam clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	Bottom Depth 7 21 Soil Field In A1- Histosol A2 - Histic Ep	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 dicators (check he objeedon	Color 10YR 10YR	round mathe absence of Matrix (Moist) 4/2 4/2 cators all	oraine, 0- indicators) (Type % 95 95 re not pre \$4 - Sanc \$5 - Sanc	2% slope e: C=Concentrat 5YR 5YR sent □ ly Gleyed ly Redox	Reduced Matrix, CS= Reduced Matrix, CS= Reduced Matrix, CS= Color (Moist) 4/6 4/6	S S S S S S S S S S	Type C C 5 for Probler A16 - Coast S7 - Dark S	Location PL M	(e.g. clay, sand, loam) clay loam clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	Bottom Depth 7 21 Soil Field In A1- Histosol A2 - Histic E ₁ A3 - Black Hi	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 dicators (check he objedon stic	Color 10YR 10YR	round m the absence of Matrix (Moist) 4/2 4/2 cators at	oraine, 0- indicators.) (Typ % 95 95 re not pre \$4 - Sanc \$6 - Strip	2% slope e: C=Concentrat 5YR 5YR sent ly Gleyed ly Redox ped Matrix	Redor (Moist) 4/6 4/6	S S S S S S S S S S	Type C C for Probler A16 - Coasts F12 - Iron-N	Location PL M	(e.g. clay, sand, loam) clay loam clay loam
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SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	Bottom Depth 7 21 Soil Field In A1- Histosol A2 - Histic Eq. A3 - Black Hi A4 - Hydroge A5 - Stratifiee	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 dicators (check he be) stic en Sulfide d Layers	Color 10YR 10YR	round m. the absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- indicators) (Typ % 95 95 re not pre \$4 - Sanc \$5 - Sanc \$6 - Strip F1 - Loan F2 - Loan	2% slope 5YR 5YR sent by Gleyed by Redox by Gleyed Matrix by Muck May Gleyed way for the company of the compa	Redor (Moist) 4/6 4/6	S S S S S S S S S S	Type C C C s for Probler A16 - Coast S7 - Dark S F12 - Iron-N TF12 - Very	Location PL M	(e.g. clay, sand, loam) clay loam clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	Bottom Depth 7 21 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratiffec A10 - 2 cm M	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 dicators (check he bipedon stic on Sulfide of Layers luck	Color 10YR 10YR re if indicator or confirm	round mathe absence of Matrix (Moist) 4/2 4/2 cators all	oraine, 0- indicators) (Typ % 95 95 re not pre \$4 - Sanc \$5 - Sanc \$5 - Sanc \$6 - Strip F1 - Loan F3 - Depli	2% slope e: C=Concentrat 5YR 5YR sent ly Gleyed ly Redox ped Matrix ny Muck M ny Gleyed eted Matrix	Reduced Matrix, CS=COlor (Moist) 4/6 4/6	S S S S S S S S S S	Type C C C s for Probler A16 - Coast S7 - Dark S F12 - Iron-N TF12 - Very	Location PL M matic Soils Prairie Redox urface langanese Mass Shallow Dark So	(e.g. clay, sand, loam) clay loam clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	Bottom Depth 7 21 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratifice A10 - 2 cm M A11 - Deplete	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 dicators (check he objecton stic en Sulfide di Layers luck ed Below Dark Surface	Color 10YR 10YR re if indicator or confirm	round mathe absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- (indicators.) (Type % 95 95 re not pre \$4 - Sanc \$5 - Sanc \$6 - Strip F1 - Loan F2 - Loan F3 - Depli	2% slope e: C=Concentrate 5YR 5YR ly Gleyed by Redox ped Matrix y Muck M yy Gleyed eted Matrix xy Muck M by Gleyed eted Matrix xy Auck Su	Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS=	S S S S S S S S S S	Type C C C s for Probler A16 - Coast S7 - Dark S F12 - Iron-N TF12 - Very	Location PL M matic Soils Prairie Redox urface langanese Mass Shallow Dark So	(e.g. clay, sand, loam) clay loam clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	Bottom Depth 7 21 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A11 - Deplete A12 - Thick E	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 Idicators (check here) bipedon stic en Sulfide d Layers luck ed Below Dark Surface bark Surface	Color 10YR 10YR re if indicator or confirm	round m the absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- indicators.) (Typ % 95 95 re not pre S4 - Sanc S6 - Strip F1 - Loan F2 - Loan F3 - Depli F6 - Redc	2% slope e: C=Concentrat 5YR 5YR sent ly Gleyed ly Gleyed ly Gleyed Matrix ny Muck M ny Gleyed eted Matrix ny Muck M ny Gleyed	Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS=	S S S S S S S S S S	Type C C C s for Probler A16 - Coast S7 - Dark S F12 - Iron-N TF12 - Very	Location PL M matic Soils Prairie Redox urface langanese Mass Shallow Dark So	(e.g. clay, sand, loam) clay loam clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	Bottom Depth 7 21 Soil Field In A1- Histosol A2 - Histic E A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplet A12 - Thick E S1 - Sandy M	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 dicators (check he objecton stic an Sulfide d Layers luck ed Below Dark Surface park Surface fluck Mineral	Color 10YR 10YR re if indicator or confirm	round mathe absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- indicators.) (Typ % 95 95 re not pre S4 - Sanc S6 - Strip F1 - Loan F2 - Loan F3 - Depli F6 - Redc	2% slope e: C=Concentrate 5YR 5YR ly Gleyed by Redox ped Matrix y Muck M yy Gleyed eted Matrix xy Muck M by Gleyed eted Matrix xy Auck Su	Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS=	ox Features % 5 5 Indicators	Type C C s for Probler A16 - Coast S7 - Dark S F12 - Iron-N TF12 - Very Other (Explain	Location PL M	(e.g. clay, sand, loam) clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	Bottom Depth 7 21 Soil Field In A1- Histosol A2 - Histic E A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplet A12 - Thick E S1 - Sandy M	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 Idicators (check here) bipedon stic en Sulfide d Layers luck ed Below Dark Surface bark Surface	Color 10YR 10YR re if indicator or confirm	round m the absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- indicators.) (Typ % 95 95 re not pre S4 - Sanc S6 - Strip F1 - Loan F2 - Loan F3 - Depli F6 - Redc	2% slope e: C=Concentrat 5YR 5YR sent ly Gleyed ly Gleyed ly Gleyed Matrix ny Muck M ny Gleyed eted Matrix ny Muck M ny Gleyed	Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS=	ox Features % 5 5 Indicators	Type C C s for Probler A16 - Coast S7 - Dark S F12 - Iron-N TF12 - Very Other (Explain	Location PL M	(e.g. clay, sand, loam) clay loam clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	Bottom Depth 7 21 Soil Field In A1- Histosol A2 - Histic E A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplet A12 - Thick E S1 - Sandy M	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 Idicators (check here) Dipedon stic en Sulfide d Layers luck ded Below Dark Surface Dark Surface Luck Mineral Licky Peat or Peat	Color 10YR 10YR re if indicator or confirm	round m the absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- indicators.) (Typ % 95 95 re not pre S4 - Sanc S6 - Strip F1 - Loan F2 - Loan F3 - Depli F6 - Redc	2% slope e: C=Concentrat 5YR 5YR sent ly Gleyed ly Gleyed ly Gleyed Matrix ny Muck M ny Gleyed eted Matrix ny Muck M ny Gleyed	Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS=	ox Features % 5 5 Indicators	Type C C s for Probler A16 - Coast S F12 - Iron-N TF12 - Very Other (Explain to vegetation and w	Location PL M	(e.g. clay, sand, loam) clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric Restrictive Layer (If Observed)	Bottom Depth 7 21 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratifier A11 - Deplete A12 - Thick E S1 - Sandy M S3 - 5 cm ML	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 Idicators (check here) Dipedon stic en Sulfide d Layers luck ded Below Dark Surface Dark Surface Luck Mineral Licky Peat or Peat	Color 10YR 10YR re if indicator or confirm	round m the absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- indicators.) (Typ % 95 95 re not pre S4 - Sanc S6 - Strip F1 - Loan F2 - Loan F3 - Depli F6 - Redc	2% slope e: C=Concentrat 5YR 5YR sent ly Gleyed ly Gleyed ly Gleyed Matrix ny Muck M ny Gleyed eted Matrix ny Muck M ny Gleyed	Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS=	ox Features % 5 5 Indicators 1 Indicators of hydrophyty	Type C C s for Probler A16 - Coast S F12 - Iron-N TF12 - Very Other (Explain to vegetation and w	Location PL M	(e.g. clay, sand, loam) clay loam clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	Bottom Depth 7 21 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratifier A11 - Deplete A12 - Thick E S1 - Sandy M S3 - 5 cm ML	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 Idicators (check here) Dipedon stic en Sulfide d Layers luck ded Below Dark Surface Dark Surface Luck Mineral Licky Peat or Peat	Color 10YR 10YR re if indicator or confirm	round m the absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- indicators.) (Typ % 95 95 re not pre S4 - Sanc S6 - Strip F1 - Loan F2 - Loan F3 - Depli F6 - Redc	2% slope e: C=Concentrat 5YR 5YR sent ly Gleyed ly Gleyed ly Gleyed Matrix ny Muck M ny Gleyed eted Matrix ny Muck M ny Gleyed	Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS=	ox Features % 5 5 Indicators 1 Indicators of hydrophyty	Type C C s for Probler A16 - Coast S F12 - Iron-N TF12 - Very Other (Explain to vegetation and w	Location PL M	(e.g. clay, sand, loam) clay loam clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric Restrictive Layer (If Observed)	Bottom Depth 7 21 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratifier A11 - Deplete A12 - Thick E S1 - Sandy M S3 - 5 cm ML	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 Idicators (check here) Dipedon stic en Sulfide d Layers luck ded Below Dark Surface Dark Surface Luck Mineral Licky Peat or Peat	Color 10YR 10YR re if indicator or confirm	round m the absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- indicators.) (Typ % 95 95 re not pre S4 - Sanc S6 - Strip F1 - Loan F2 - Loan F3 - Depli F6 - Redc	2% slope e: C=Concentrat 5YR 5YR sent ly Gleyed ly Gleyed ly Gleyed Matrix ny Muck M ny Gleyed eted Matrix ny Muck M ny Gleyed	Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS=	ox Features % 5 5 Indicators 1 Indicators of hydrophyty	Type C C s for Probler A16 - Coast S F12 - Iron-N TF12 - Very Other (Explain to vegetation and w	Location PL M	(e.g. clay, sand, loam) clay loam clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric Restrictive Layer (If Observed)	Bottom Depth 7 21 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratifier A11 - Deplete A12 - Thick E S1 - Sandy M S3 - 5 cm ML	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 Idicators (check here) Dipedon stic en Sulfide d Layers luck ded Below Dark Surface Dark Surface Luck Mineral Licky Peat or Peat	Color 10YR 10YR re if indicator or confirm	round m the absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- indicators.) (Typ % 95 95 re not pre S4 - Sanc S6 - Strip F1 - Loan F2 - Loan F3 - Depli F6 - Redc	2% slope e: C=Concentrat 5YR 5YR sent ly Gleyed ly Gleyed ly Gleyed Matrix ny Muck M ny Gleyed eted Matrix ny Muck M ny Gleyed	Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS= Redorman RM=Reduced Matrix, CS=	ox Features % 5 5 Indicators 1 Indicators of hydrophyty	Type C C s for Probler A16 - Coast S F12 - Iron-N TF12 - Very Other (Explain to vegetation and w	Location PL M	(e.g. clay, sand, loam) clay loam clay loam



Additional Remarks:

WETLAND DETERMINATION DATA FORM Midwest Region

Project/Site: Marysville Connector Wetland ID: Wetland 3 Sample Point: SP07 **VEGETATION** (Species identified in all uppercase are non-native species.) **Dominance Test Worksheet** Species Name % Cover Dominant Ind.Status 2. 3. 4. Total Number of Dominant Species Across All Strata: 2 (B) 5. 6. Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B) 7. Prevalence Index Worksheet 8. --9. ----Total % Cover of: Multiply by: 10. OBL spp. x 1 = --Total Cover = FACW spp. x 2 = x 3 = FAC spp. x 4 = Sapling/Shrub Stratum (Plot size: 15 ft radius) FACU spp. ____ UPL spp. x 5 = 2 Total _____(A) 0 (B) 3. --4. 5. Prevalence Index = B/A = NA 6. 7. 8. **Hydrophytic Vegetation Indicators:** 9. ☑ Yes □ No Rapid Test for Hydrophytic Vegetation 10. □ No Yes Dominance Test is > 50% Total Cover = Yes □ No Prevalence Index is ≤ 3.0 * □ Yes □ No Morphological Adaptations (Explain) * □ No Herb Stratum (Plot size: 5 ft radius) □ Yes Problem Hydrophytic Vegetation (Explain) * Phalaris arundinacea **FACW** * Indicators of hydric soil and wetland hydrology must be Typha angustifolia 2. Υ OBL present, unless disturbed or problematic. 3. 4. **Definitions of Vegetation Strata:** --5. 6 Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. 10. 11. --Herb - All herbaceous (non-woody) plants, regardless of size, 12 and woody plants less than 3.28 ft. tall. 13. 14. Woody Vines - All woody vines greater than 3.28 ft. in height. 15 Total Cover = Woody Vine Stratum (Plot size: 30 ft radius) 1. 2. Hydrophytic Vegetation Present
Yes No 3. 4. 5. Total Cover = 0 Remarks:



-											
Project/Site:	Marysville	Connector					Stantec Project #:	193707055		Date:	11/20/19
Applicant:	Columbia (Gas of Ohio								County:	Union
Investigator #1	: Michelle Ke	earns		Investi	gator #2:	Charlie .	Allen			State:	Ohio
Soil Unit:	Blg1A1 - Blou	nt silt loam, ground mora	aine, 0-2%	slopes		1	NWI/WWI Classification:	N/A		Wetland ID:	Wetland 3
Landform:	Side slope				al Relief:	Convex				Sample Point:	SP08
Slope (%):	3	Latitude	40 19975	1.0	ongitude:	-83 30326		Datum:	WGS 1984	Community ID:	
		ditions on the site ty					ain in remarks)	☑ Yes □	No	Section:	N/A
		or Hydrology Disig				(II IIO, expir	Are normal circumsta			Township:	N/A
							✓ Yes	Nə			
SUMMARY OF	FINDINGS	or Hydrology <a> na	turally pr	ODIEITIAL	ic :		- 163	140		Range:	N/A Dir: N/A
Hydrophytic Ve				Yes				Hydric Soils			□ Yes □ No
Wetland Hydro	logy Present	:?		Yes	☑ No			Is This Samp	oling Point \	Within A Wetla	and? • Yes • No
Remarks:											
HYDROLOGY											
Watland Hyd	rology India	store (Chack hara i	findicata	re are n	ot procon	F 10 \.					
Primary		ators (Check here i	indicato	ors are no	ot presen	L ==):			Secondary:		
	<u>/.</u> A1 - Surface	Water			B9 - Wate	r-Stained	Leaves		Secondary.	B6 - Surface Sc	nil Cracks
	A2 - High Wa				B13 - Aqu					B10 - Drainage	
	A3 - Saturati				B14 - True					C2 - Dry-Seaso	
	B1 - Water M	1arks			C1 - Hydr					C8 - Crayfish B	
	B2 - Sedime	nt Deposits					spheres on Living Roots			C9 - Saturation	Visible on Aerial Imagery
	B3 - Drift De						educed Iron				Stressed Plants
	B4 - Algal Ma						duction in Tilled Soils			D2 - Geomorph	
	B5 - Iron Dep				C7 - Thin					D5 - FAC-Neutr	al Test
		on Visible on Aerial Im			D9 - Gaug						
	B8 - Sparsely	y Vegetated Concave S	Surface		Other (Ex	plain in Re	emarks)				
Field Observa	tions:										
Surface Water	Present?	□ Yes ☑ No	Depth:		(in.)			Wotland Hy	drology Pr	ocent2	Yes No
Water Table P	resent?	□ Yes ☑ No	Depth:		(in.)			Wetland Hy	urology Pr	esentr	res ino
Saturation Pres	sent?	□ Yes ☑ No	Depth:		(in.)						
Dagariba Dagar	lad Data (atra		مسالمه		_ , ,	- !	> :f: - -		NI/A		
	ied Data (Stre	am gauge, monitorin	g well, ae	riai pnoto	s, previou	s inspecti	ons), if available:		N/A		
Remarks:	ied Data (Stre	eam gauge, monitorin	g weii, ae	riai pnoto	s, previou	s inspecti	ons), if available:		N/A		
Remarks:	ded Data (Stre	am gauge, monitorin	g weii, ae	riai pnoto	s, previou	s inspecti	ons), if available:		N/A		
	ed Data (Stre	am gauge, monitorin	g weii, ae	riai pnoto	s, previou	s inspecti	ons), ir avallable:		N/A		
Remarks: SOILS Map Unit Name	e:	Blg1A1 - Blount sil	loam, g	round m	oraine, 0-	2% slope	es				
Remarks: SOILS Map Unit Name	e:	Blg1A1 - Blount sil	loam, g	round m	oraine, 0-	2% slope	es	Covered/Coated Sand Gra		ore Lining, M=Matrix)	
Remarks: SOILS Map Unit Name Profile Descri	e:	Blg1A1 - Blount sil	loam, g	round m	oraine, 0-	2% slope	SS S D=Depletion, RM=Reduced Matrix, CS=0	Covered/Coated Sand Gra		ore Lining, M=Matrix)	Texture
Remarks: SOILS Map Unit Nam. Profile Descri	e: ption (Describe to Bottom	BIg1A1 - Blount sill the depth needed to document the in	loam, g	round ment the absence of Matrix	oraine, 0-	2% slope	es ion, D=Depletion, RM=Reduced Matrix, CS=C RedC	ox Features	ins; Location: PL=Po	1	-
Remarks: SOILS Map Unit Nam Profile Descri Top Depth	e: Bottom Depth	Blg1A1 - Blount sill the depth needed to document the in Horizon	loam, g	round mente absence of Matrix (Moist)	oraine, 0- indicators.) (Typ	2% slope	es ion, D=Depletion, RM=Reduced Matrix, CS=C Redo Color (Moist)	x Features %	ins; Location: PL=Po	Location	(e.g. clay, sand, loam
Remarks: SOILS Map Unit Name Profile Descrit Top Depth 0	e: ption (Describe to Bottom Depth 20	BIg1A1 - Blount sill the depth needed to document the in Horizon	t loam, gidicator or confirming Color 10YR	round menter absence of Matrix (Moist)	oraine, 0- indicators.) (Typ	2% slope	es ion, D=Depletion, RM=Reduced Matrix, CS=C Redo Color (Moist)	%	ins; Location: PL=Po	Location 	(e.g. clay, sand, loam
Remarks: SOILS Map Unit Name Profile Descrit Top Depth 0	e: ption (Describe to Bottom Depth 20	Blg1A1 - Blount sill the depth needed to document the in Horizon	cloam, g	round menthe absence of Matrix (Moist) 3/3	oraine, 0- indicators.) (Typ % 100	2% slope	Sesion, D=Depletion, RM=Reduced Matrix, CS=CREDIC COLOR (Moist)	%	Type	Location 	(e.g. clay, sand, loam loam
Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0	e: ption (Describe to Bottom Depth 20	Blg1A1 - Blount sill the depth needed to document the in Horizon 1	clicam, g	round menthe absence of Matrix (Moist) 3/3	oraine, 0- indicators.) (Typ % 100	2% slope	SS Ion, D=Depletion, RM=Reduced Matrix, CS=COlor (Moist)	%	Type	Location 	(e.g. clay, sand, loam
Remarks: SOILS Map Unit Name Profile Descrit Top Depth 0	e: ption (Describe to Bottom Depth 20	Blg1A1 - Blount sill the depth needed to document the in Horizon	cloam, g	round menthe absence of Matrix (Moist) 3/3	oraine, 0- indicators.) (Typ % 100	2% slope	Sesion, D=Depletion, RM=Reduced Matrix, CS=CREDIC COLOR (Moist)	%	Type	Location 	(e.g. clay, sand, loam loam
Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0	e: ption (Describe to Bottom Depth 20	Blg1A1 - Blount sill the depth needed to document the in Horizon 1	clicam, g	round menthe absence of Matrix (Moist) 3/3	oraine, 0- indicators.) (Typ % 100	2% slope	SS Ion, D=Depletion, RM=Reduced Matrix, CS=COlor (Moist)	%	Type	Location 	(e.g. clay, sand, loam
Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0	e: ption (Describe to Bottom Depth 20	Blg1A1 - Blount sill the depth needed to document the in Horizon 1	Color 10YR	round ment the absence of Matrix (Moist) 3/3	% 100	2% slope	SS Ion, D=Depletion, RM=Reduced Matrix, CS= Redo Color (Moist)	%	Type	Location	(e.g. clay, sand, loam
Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0	e: ption (Describe to Bottom Depth 20	Blg1A1 - Blount sil the depth needed to document the in Horizon 1	t loam, g	round ment the absence of Matrix (Moist) 3/3	oraine, 0- indicators.) (Typ % 100	2% slope	Redo Color (Moist)	%	ins; Location: PL=Po	Location	(e.g. clay, sand, loam loam
Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0	e: ption (Describe to Bottom Depth 20	Blg1A1 - Blount sil the depth needed to document the in Horizon 1	color 10YR	round m the absence of Matrix (Moist) 3/3	oraine, 0- indicators.) (Typ % 100	2% slope	Reduced Matrix, CS= Color (Moist)		Type	Location	(e.g. clay, sand, loam loam
Remarks: SOILS Map Unit Nam. Profile Descri Top Depth 0	e: ption (Describe to Bottom Depth 20	Blg1A1 - Blount sil the depth needed to document the in Horizon 1	Color 10YR	round mn the absence of Matrix (Moist) 3/3 -	oraine, 0- indicators.) (Typ % 100	2% slope	PS Ion, D=Depletion, RM=Reduced Matrix, CS= Redo Color (Moist)		Type	Location	(e.g. clay, sand, loam loam
Remarks: SOILS Map Unit Nam. Profile Descri Top Depth 0 NRCS Hydric	e: ption (Describe to Bottom Depth 20 Soil Field In	Blg1A1 - Blount sil the depth needed to document the in Horizon 1	Color 10YR	round mm the absence of Matrix (Moist) 3/3 cators ar	y % 100 ere not pre	2% slope	Redc Color (Moist)	x Features	Type	Location	(e.g. clay, sand, loam loam
Remarks: SOILS Map Unit Nam. Profile Descri Top Depth 0 NRCS Hydric	e: Poin (Describe to Bottom Depth 20	Blg1A1 - Blount sil the depth needed to document the in Horizon 1 ndicators (check he	Color 10YR	round mithe absence of Matrix (Moist) 3/3	y hindicators) (Type which indicators) (Type which ind	2% slope s: C=Concentrat	Redc Color (Moist)	y Features % Indicators	Type	Location	(e.g. clay, sand, loam loam
Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0 NRCS Hydric	e: ption (Describe to Bottom Depth 20 Soil Field Ir A1- Histosol A2 - Histic E	Blg1A1 - Blount sill the depth needed to document the in Horizon 1 ndicators (check helpipedon	Color 10YR	round ment the absence of Matrix (Moist) 3/3 cators ar	oraine, 0- indicators.) (Typ % 100	2% slope e: C=Concentrat sent y Gleyed y Redox	Reduced Matrix, CS=COLOR (Moist)	x Features % Indicators	Type	Location	(e.g. clay, sand, loam loam
Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0 NRCS Hydric	e: ption (Describe to Bottom Depth 20	Blg1A1 - Blount sill the depth needed to document the in Horizon 1 adicators (check he pipedon istic	Color 10YR	round mn the absence of Matrix (Moist) 3/3 cators ar	9% 100	2% slope c: C=Concentrat sent y Gleyed y Redox yed Matrix	Reduced Matrix, CS= Reduced Matrix, CS= Color (Moist)	x Features % Indicators	Type	Location	(e.g. clay, sand, loam loam es
Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0 NRCS Hydric	e: ption (Describe to Bottom Depth 20	Blg1A1 - Blount sil Horizon 1	Color 10YR	round mn the absence of Matrix (Moist) 3/3 cators ar	% 100	2% slope	Redor (Moist)	x Features % Indicators	Type	Location	(e.g. clay, sand, loam loam es
Remarks: SOILS Map Unit Nam. Profile Descri Top Depth 0 NRCS Hydric	e: Potion (Describe to Bottom Depth 20	Blg1A1 - Blount sil the depth needed to document the in Horizon 1	Color 10YR	round mn the absence of Matrix (Moist) 3/3 cators ar	y % 100	2% slope	Redc Color (Moist)	x Features % Indicators	Type	Location	(e.g. clay, sand, loam loam es
Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0 NRCS Hydric	Bottom Depth 20 Soil Field Ir A1- Histosol A2 - Histic E A3 - Black H A4 - Hydroge A5 - Stratifier A10 - 2 cm M	Blg1A1 - Blount sill the depth needed to document the in Horizon 1 ndicators (check he pipedon istic can Sulfide d Layers fluck	cloam, gidicator or confirm	round mm the absence of Matrix (Moist) 3/3 cators ar	praine, 0- indicators.) (Typ % 100 en ont pre S4 - Sand S5 - Sand S6 - Stripp F1 - Loam F3 - Deple	2% slope s: C=Concentrat sent y Gleyed i y Redox y Muck M y Gleyed deted Matrix y Gleyed deted Matrix	Reduced Matrix, CS=C Reduced M	x Features % Indicators	Type	Location	(e.g. clay, sand, loam loam es
Remarks: SOILS Map Unit Nam. Profile Descri Top Depth 0 NRCS Hydric	Be: ption (Describe to Depth 20 Soil Field Ir A1- Histosol A2- Histic E A3- Black H A4- Hydroge A5- Stratifier A10- 2 cm M A11- Deplet	Blg1A1 - Blount sill the depth needed to document the in Horizon 1 ndicators (check he pipedon istic en Sulfide d Layers luck ed Below Dark Surface ed Below Dark Surface	cloam, gidicator or confirm	round ment the absence of Matrix (Moist) 3/3 cators an	% 100	2% slope e: C=Concentrate sent y Gleyed y Redox y Redox y Muck M y Muck M y Muck M tityl Muck M y Muck M set d Matrix x Dark Su	Redor (Moist)	x Features % Indicators	Type	Location	(e.g. clay, sand, loam loam es
Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0 NRCS Hydric	Bottom Depth 20 Soil Field Ir A1- Histosol A2 - Histic E A3 - Black H A4 - Hydroge A5 - Stratifier A10 - 2 cm M	Blg1A1 - Blount sil the depth needed to document the in Horizon 1	cloam, gidicator or confirm	round menthe absence of Matrix (Moist) 3/3 cators ar	oraine, 0- indicators.) (Typ % 100 en ot pre \$4 - Sand \$6 - Strip F1 - Loam F2 - Loam F3 - Deple F6 - Redc F7 - Deple	2% slope C=Concentrat	PS Ion, D=Depletion, RM=Reduced Matrix, CS= Redor Color (Moist)	x Features % Indicators	Type	Location	(e.g. clay, sand, loam loam es
Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0 NRCS Hydric	Be: Potion (Describe to Bottom Depth 20	Blg1A1 - Blount sil the depth needed to document the in Horizon 1	cloam, gidicator or confirm	round mn the absence of Matrix (Moist) 3/3 cators an	% 100	2% slope C=Concentrat	Redorman Color (Moist)	x Features % Indicators	Type	Location	(e.g. clay, sand, loam loam es
Remarks: SOILS Map Unit Nam. Profile Descri Top Depth 0 NRCS Hydric	Be: Potion (Describe to Depth 20	Blg1A1 - Blount sil the depth needed to document the in Horizon 1	cloam, gidicator or confirm	round mn the absence of Matrix (Moist) 3/3 cators an	oraine, 0- indicators.) (Typ % 100	2% slope C=Concentrat	Redorman Color (Moist)	ox Features % Indicators Indicators of hydrophyl	Type	Location	(e.g. clay, sand, loam loam es urface
Remarks: SOILS Map Unit Name Profile Descri Top Depth 0 NRCS Hydric	Be: Potion (Describe to Bottom Depth 20	Blg1A1 - Blount sil the depth needed to document the in Horizon 1	cloam, gidicator or confirm	round mn the absence of Matrix (Moist) 3/3 cators an	oraine, 0- indicators.) (Typ % 100 en ot pre \$4 - Sand \$6 - Strip F1 - Loam F2 - Loam F3 - Deple F6 - Redc F7 - Deple	2% slope C=Concentrat	Redorman Color (Moist)	x Features % Indicators	Type	Location	(e.g. clay, sand, loam
Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0 NRCS Hydric	Be: Potion (Describe to Depth 20	Blg1A1 - Blount sil the depth needed to document the in Horizon 1	cloam, gidicator or confirm	round mn the absence of Matrix (Moist) 3/3 cators an	oraine, 0- indicators.) (Typ % 100 en ot pre \$4 - Sand \$6 - Strip F1 - Loam F2 - Loam F3 - Deple F6 - Redc F7 - Deple F8 - Redc	2% slope C=Concentrat	Redorman Color (Moist)	ox Features % Indicators Indicators of hydrophyl	Type	Location	(e.g. clay, sand, loam loam es urface
Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0 NRCS Hydric Restrictive Layer (If Observed)	Be: Potion (Describe to Depth 20	Blg1A1 - Blount sil the depth needed to document the in Horizon 1	cloam, gidicator or confirm	round mn the absence of Matrix (Moist) 3/3 cators an	oraine, 0- indicators.) (Typ % 100 en ot pre \$4 - Sand \$6 - Strip F1 - Loam F2 - Loam F3 - Deple F6 - Redc F7 - Deple F8 - Redc	2% slope C=Concentrat	Redorman Color (Moist)	ox Features % Indicators Indicators of hydrophyl	Type	Location	(e.g. clay, sand, loam loam es urface
Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0 NRCS Hydric Restrictive Layer (If Observed)	Be: Potion (Describe to Depth 20	Blg1A1 - Blount sil the depth needed to document the in Horizon 1	cloam, gidicator or confirm	round mn the absence of Matrix (Moist) 3/3 cators an	oraine, 0- indicators.) (Typ % 100 en ot pre \$4 - Sand \$6 - Strip F1 - Loam F2 - Loam F3 - Deple F6 - Redc F7 - Deple F8 - Redc	2% slope C=Concentrat	Redorman Color (Moist)	ox Features % Indicators Indicators of hydrophyl	Type	Location	(e.g. clay, sand, loam loam es urface



Project/Site: Marysville Connector Wetland ID: Wetland 3 Sample Point: SP08 **VEGETATION** (Species identified in all uppercase are non-native species.) **Dominance Test Worksheet** Species Name % Cover Dominant Ind.Status 2. Number of Dominant Species that are OBL, FACW, or FAC: ____1 (A) 3. 4. Total Number of Dominant Species Across All Strata: 1 (B) 5. 6. Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B) 7. Prevalence Index Worksheet 8. 9. ----Total % Cover of: Multiply by: OBL spp. 10. x 1 = --Total Cover = FACW spp. x 2 = x 3 = FAC spp. x 4 = Sapling/Shrub Stratum (Plot size: 15 ft radius) FACU spp. ____ UPL spp. x 5 = 2 Total _____(A) 3. 0 (B) --4. 5. Prevalence Index = B/A = NA 6. 7. 8. **Hydrophytic Vegetation Indicators:** 9. ☑ Yes □ No Rapid Test for Hydrophytic Vegetation 10. □ No Yes Dominance Test is > 50% Total Cover = Yes □ No Prevalence Index is ≤ 3.0 * □ Yes □ No Morphological Adaptations (Explain) * □ No Herb Stratum (Plot size: 5 ft radius) □ Yes Problem Hydrophytic Vegetation (Explain) * Poa pratensis **FAC** * Indicators of hydric soil and wetland hydrology must be 2. Cirsium arvense 5 Ν **FACU** present, unless disturbed or problematic. 3. 4. **Definitions of Vegetation Strata:** --5. 6 Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. 10. 11. --Herb - All herbaceous (non-woody) plants, regardless of size, 12 and woody plants less than 3.28 ft. tall. 13. 14. Woody Vines - All woody vines greater than 3.28 ft. in height. 15 Total Cover = Woody Vine Stratum (Plot size: 30 ft radius) 1. 2. Hydrophytic Vegetation Present
Yes No 3. 4. 5. Total Cover = 0 Remarks:

Additional Remarks:			



Project/Site:	Marysville	Connector					Stantec Project #:	193707055		Date:	11/20/19	
Applicant:	Columbia (Gas of Ohio								County:	Union	
Investigator #1:	Michelle Ke	earns		Investi	gator #2:	Charlie .	Allen			State:	Ohio	
Soil Unit:	Blg1A1 - Blou	nt silt loam, ground mora	aine, 0-2%	slopes		1	WI/WWI Classification:	N/A		Wetland ID:	Wetland 4	
Landform:	Depression				al Relief:					Sample Point:	SP09	
Slope (%):	1	Latitude:	40 2001		ongitude:			Datum:	WGS 1984	Community ID:		
		ditions on the site ty					ain in remarks)	☑ Yes □	No	Section:	N/A	
		or Hydrology sig				(II IIO, expir	Are normal circumstar			Township:	N/A	
		or Hydrology na					✓ Yes	Nā				
		or Hydrology - Ha	turally pr	obiemai	IC?		□ 103	NO		Range:	N/A Dir: N/A	
SUMMARY OF												
Hydrophytic Ve				Yes				Hydric Soils			□ Yes □ No	
Wetland Hydro	logy Present	!?		Yes	□ No			Is This Samp	oling Point	Within A Wetla	and? "Yes No	b
Remarks:												
HYDROLOGY												
Wetland Hydr	ology Indic	ators (Chook horo it	findicata	re ore n	ot procon	+ n \-						_
Primary		ators (Check here if	i indicato	ns are m	ot presen	().			Cocondon			
Pililary	A1 - Surface	Water			B9 - Wate	er-Stained	Leaves		Secondary:	B6 - Surface So	il Cracks	
₹	A2 - High Wa				B13 - Aqu					B10 - Drainage		
•	A3 - Saturation				B14 - True					C2 - Dry-Seaso		
	B1 - Water M	/larks			C1 - Hydr					C8 - Crayfish Bu		
	B2 - Sedimer	nt Deposits		7			spheres on Living Roots			C9 - Saturation	Visible on Aerial Imagery	y
	B3 - Drift Dep						educed Iron			D1 - Stunted or		
	B4 - Algal Ma				C6 - Rece	ent Iron Re	duction in Tilled Soils			D2 - Geomorph		
	B5 - Iron Dep				C7 - Thin				2	D5 - FAC-Neutr	al Test	
		on Visible on Aerial Ima			D9 - Gaug							
	B8 - Sparsely	y Vegetated Concave S	Surface		Other (Ex	plain in Re	emarks)					
Field Observa	tions:											
Surface Water	Present?	□ Yes ☑ No	Depth:		(in.)			Wotland Hy	drology Dr	esent?	Voc. II. No.	
Water Table Pr	esent?		Depth:	0	(in.)			welland ny	urology Fi	esentr	Tes INO	
Saturation Pres	ent?	✓ Yes □ No	Depth:		(in.)							
D 11 D 1					` '							
	ad Data (atra	ana aguas manitarin	مم المبيية	rial shata		a inanasti	ana) if available.		NI/A			_
	ed Data (stre	eam gauge, monitorin	g well, ae	rial photo	s, previou	s inspecti	ons), if available:		N/A			_
Remarks:	ed Data (stre	eam gauge, monitorin	g well, ae	rial photo	s, previou	s inspecti	ons), if available:		N/A			
Remarks:	ed Data (stre	eam gauge, monitorin	g well, ae	rial photo	s, previou	s inspecti	ons), if available:		N/A			
	ed Data (stre	eam gauge, monitorin	g well, ae	rial photo	s, previou	s inspecti	ons), if available:		N/A			
Remarks: SOILS Map Unit Name):	Blg1A1 - Blount silt	loam, g	round m	oraine, 0-	2% slope	es					
Remarks: SOILS Map Unit Name):	Blg1A1 - Blount silt	loam, g	round m	oraine, 0-	2% slope	es			ore Lining, M=Matrix)		
Remarks: SOILS Map Unit Name Profile Descrip):	Blg1A1 - Blount silt	loam, g	round m	oraine, 0-	2% slope	SS S Depletion, RM=Reduced Matrix, CS=C	Covered/Coated Sand Grai		ore Lining, M=Matrix)	Texture	
Remarks: SOILS Map Unit Name Profile Descrip Top	e: Stion (Describe to Bottom	BIg1A1 - Blount silt the depth needed to document the inc	loam, g	round menthe absence of	oraine, 0-	2% slope	es ion, D=Depletion, RM=Reduced Matrix, CS=C Redc	Covered/Coated Sand Grai	ins; Location: PL=Pe		1	m)
Remarks: SOILS Map Unit Name Profile Descrip Top Depth	e: otion (Describe to Bottom Depth	Blg1A1 - Blount silt the depth needed to document the inc Horizon	loam, g	round mente absence of Matrix (Moist)	oraine, 0-	2% slope	es ion, D=Depletion. RM=Reduced Matrix, CS=C Redo Color (Moist)	overed/Coated Sand Grai ox Features %	ins; Location: PL=Po	Location	(e.g. clay, sand, loa	<u>m)</u>
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	e: Dition (Describe to Bottom Depth 7	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1	cloam, glicator or confirm	round mente absence of Matrix (Moist)	oraine, 0- indicators.) (Typ	2% slope: C=Concentral	ion, D=Depletion, RM=Reduced Matrix, CS=C Redo Color (Moist)	Covered/Coated Sand Grain X Features % 5	ns; Location: PL=Pe Type C	Location PL	(e.g. clay, sand, load	<u>m)</u>
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 7	Describe to Bottom Depth 7 21	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2	cloam, glidicator or confirm Color 10YR 10YR	round mente absence of Matrix (Moist) 4/2 4/2	oraine, 0- indicators.) (Typ % 95 95	2% slope e: C=Concentrat 5YR 5YR	ion, D=Depletion, RM=Reduced Matrix, CS=C Redo Color (Moist) 4/6 4/6	covered/Coated Sand Grail ox Features % 5 5	Type C C	Location PL M	(e.g. clay, sand, loan clay loam clay loam	m)
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 7	Experimental Depth 7 21	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2	clicam, glicator or confirm Color 10YR 10YR	round mentice absence of Matrix (Moist) 4/2 4/2	oraine, 0- indicators.) (Typ % 95 95	2% slope e: C=Concentrat	Reduced Matrix, CS=C Color (Moist) 4/6 4/6	covered/Coated Sand Grail Export Sand Grail Society Sand Grail	Type C C	Location PL M	(e.g. clay, sand, loal clay loam clay loam 	m)
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 7	Describe to Bottom Depth 7 21	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2	cloam, glidicator or confirm Color 10YR 10YR	round mente absence of Matrix (Moist) 4/2 4/2	oraine, 0- indicators.) (Typ % 95 95	2% slope e: C=Concentrat 5YR 5YR	ion, D=Depletion, RM=Reduced Matrix, CS=C Redo Color (Moist) 4/6 4/6	covered/Coated Sand Grail ox Features % 5 5	Type C C	Location PL M	(e.g. clay, sand, loan clay loam clay loam	m)
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 7	Experimental Depth 7 21	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2	clicam, glicator or confirm Color 10YR 10YR	round mentice absence of Matrix (Moist) 4/2 4/2	oraine, 0- indicators.) (Typ % 95 95	2% slope e: C=Concentrat	Reduced Matrix, CS=C Color (Moist) 4/6 4/6	covered/Coated Sand Grail Export Sand Grail Society Sand Grail	Type C C	Location PL M	(e.g. clay, sand, loal clay loam clay loam 	m)
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 7	Experimental Experiments of the Computation (Describe to Depth 7 21	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2	Color 10YR 10YR	round m the absence of Matrix (Moist) 4/2 4/2	oraine, 0- indicators.) (Typ % 95 95	2% slope e: C=Concentrat 5YR 5YR	Reduced Matrix, CS=C Color (Moist) 4/6 4/6	covered/Coated Sand Grail Experiment Sand Gr	Type C C	Location PL M	(e.g. clay, sand, loai clay loam clay loam 	m)
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 7	Experimental Describe to Bottom Depth 7 21	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2	t loam, g	round m. Matrix (Moist) 4/2 4/2	oraine, 0- indicators.) (Typ % 95 95	2% slope e: C=Concentrat	Reduced Matrix, CS=C Color (Moist) 4/6 4/6	covered/Coated Sand Grail ox Features % 5 5	Type C C	Location PL M	(e.g. clay, sand, loai clay loam clay loam 	m)
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 7	Bottom Depth 7 21	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2	color 10YR 10YR	round m. Matrix (Moist) 4/2 4/2	oraine, 0- indicators.) (Typ % 95 95	2% slope e: C=Concentrat 5YR 5YR	Reduced Matrix, CS=C Color (Moist) 4/6 4/6	covered/Coated Sand Grain Experiment Sand Grain Experiment Sand Grain Sand Sand Sand Grain Sand Sand Sand Grain Sand Sand Sand Sand Grain Sand Sand Sand Sand Grain Sand Sand Sand Sand Sand Sand Sand Sand	Type C C	Location PL M	(e.g. clay, sand, loai clay loam clay loam 	m)
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 7	Dition (Describe to Bottom Depth 7 21	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2	Color 10YR 10YR	round m the absence of Matrix (Moist) 4/2 4/2	oraine, 0- indicators.) (Typ % 95 95	2% slope e: C=Concentrat	Reduced Matrix, CS=C Color (Moist) 4/6 4/6	Sovered/Coated Sand Grain XX Features % 5	Type C C	Location PL M	(e.g. clay, sand, loai clay loam clay loam 	m)
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	Bottom Depth 7 21 Soil Field In	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2	Color 10YR 10YR	round m the absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- indicators.) (Typ % 95 95 re not pre	2% slope e: C=Concentrat	Redc Color (Moist) 4/6 4/6	overed/Coated Sand Grail X Features % 5 Indicators	Type C C for Problem	Location PL M	(e.g. clay, sand, loai clay loam clay loam 	m)
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	Bottom Depth 7 21 Soil Field In	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 ndicators (check he	Color 10YR 10YR	round m the absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- indicators) (Typ % 95 95 e not pre S4 - Sand	2% slope c C=Concentrat 5YR 5YR sent □	Redc Color (Moist) 4/6 4/6	overed/Coated Sand Grain X Features % 5 Indicators	Type C C for Problem	Location PL M	(e.g. clay, sand, loai clay loam clay loam 	m)
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	Bottom Depth 7 21 Soil Field Ir A1- Histosol A2 - Histic E	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 ndicators (check he pipedon	Color 10YR 10YR	round minthe absence of Matrix (Moist) 4/2 4/2 cators all	oraine, 0- indicators.) (Typ % 95 95 re not pre S4 - Sand S5 - Sand	2% slope e: C=Concentrat 5YR 5YR sent □ ly Gleyed ly Redox	Redo Color (Moist) 4/6 4/6	covered/Coated Sand Grail ox Features % 5 5 Indicators	Type C C for Problem A16 - Coast S7 - Dark Si	Location PL M	(e.g. clay, sand, loan clay loam clay loam	m)
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	Bottom Depth 7 21 Soil Field Ir A1- Histosol A2 - Histic E ₁ A3 - Black Hi	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 ndicators (check he pipedon istic	Color 10YR 10YR	round mn the absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- indicators.) (Typ % 95 95 e not pre \$4 - Sand \$6 - Stripi	2% slope e: C=Concentrat 5YR 5YR sent ly Gleyed ly Redox ped Matrix	Redo Color (Moist) 4/6 4/6	overed/Coated Sand Grain ox Features % 5 5 Indicators	Type C C for Problen A16 - Coast S7 - Dark St F12 - Iron-W	Location PL M	(e.g. clay, sand, loar clay loam clay loam	m)
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	Bottom Depth 7 21 Soil Field In A1- Histosol A2 - Histic El A3 - Black Hi A4 - Hydroge	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2	Color 10YR 10YR	round m. the absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- indicators) (Typ % 95 95 en not pre S4 - Sand S5 - Sand S6 - Stripp F1 - Loan	2% slope 5YR 5YR sent y Gleyed ly Redox by Redox by Muck M	Redo Color (Moist) 4/6 4/6	overed/Coated Sand Grain ox Features % 5 5 Indicators	Type C C for Problen A16 - Coast S7 - Dark S7 F12 - Iron-M TF12 - Very	Location PL M	(e.g. clay, sand, loar clay loam clay loam	m)
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	Bottom Depth 7 21 Soil Field In A1- Histosol A2 - Histic E1 A3 - Black Hi A4 - Hydroge A5 - Stratifiee	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2	Color 10YR 10YR	round mn the absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- indicators) (Typ % 95 95 re not pre \$4 - Sand \$5 - Sand \$6 - Strip F1 - Loam F2 - Loam	2% slope 5YR 5YR sent y Gleyed y Redox ped Matrix yn Muck Mny Gleyed	Redc Color (Moist) 4/6 4/6	overed/Coated Sand Grain X Features % 5 5 Indicators	Type C C for Problen A16 - Coast S7 - Dark S7 F12 - Iron-M TF12 - Very	Location PL M	(e.g. clay, sand, loar clay loam clay loam	m)
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	bition (Describe to Depth 7 21	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 ndicators (check he pipedon istic en Sulfide d Layers Auck	Color 10YR 10YR ere if india	round m. the absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- indicators.) (Typ 95 95 re not pre S4 - Sand S5 - Sand S6 - Stripp F1 - Loam F3 - Deple	2% slope e: C=Concentrat 5YR 5YR sent □ ly Gleyed ly Redox ped Matrix ny Muck M ny Gleyed eted Matrix	Redo Color (Moist) 4/6 4/6	overed/Coated Sand Grain X Features % 5 5 Indicators	Type C C for Problen A16 - Coast S7 - Dark S7 F12 - Iron-M TF12 - Very	Location PL M	(e.g. clay, sand, loar clay loam clay loam	m)
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	Bottom Depth 7 21 Soil Field Ir A1- Histosol A2 - Histic E, A3 - Black Hi A4 - Hydroge A5 - Stratifiee A10 - 2 cm M A11 - Deplete	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 ndicators (check he pipedon istic en Sulfide d Layers Muck ed Below Dark Surface	Color 10YR 10YR ere if india	round minthe absence of Matrix (Moist) 4/2 4/2 cators all	95 95 95 re not pre \$4 - Sand \$6 - Stript F1 - Loam F3 - Deplo	2% slope e: C=Concentrate 5YR 5YR ly Gleyed by Redox ped Matrix y Muck M yy Gleyed eted Matrix xy Muck M by Gleyed eted Matrix xy Auck Su	Redo Color (Moist) 4/6 4/6	overed/Coated Sand Grain X Features % 5 5 Indicators	Type C C for Problen A16 - Coast S7 - Dark S7 F12 - Iron-M TF12 - Very	Location PL M	(e.g. clay, sand, loar clay loam clay loam	m)
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	Bottom Depth 7 21 Soil Field Ir A1- Histosol A2- Histos E A3 - Black Hi A4 - Hydroge A5 - Stratifiev A11 - Deplet A12 - Thick I	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 dicators (check he pipedon istic en Sulfide d Layers Muck ed Below Dark Surface Dark Surface	Color 10YR 10YR ere if india	round minthe absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- indicators.) (Typ % 95 95 enot pre S4 - Sand S6 - Strip F1 - Loam F2 - Loam F3 - Deple F6 - Redc F7 - Deple	2% slope e: C=Concentrat 5YR 5YR sent ly Gleyed ly Gleyed ly Gleyed Matrix ny Muck M ny Gleyed eted Matrix ny Muck M ny Gleyed	Redo Color (Moist) 4/6 4/6	overed/Coated Sand Grain X Features % 5 5 Indicators	Type C C for Problen A16 - Coast S7 - Dark S7 F12 - Iron-M TF12 - Very	Location PL M	(e.g. clay, sand, loar clay loam clay loam	m)
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	Bottom Depth 7 21 Soil Field In A1- Histosol A2 - Histic El A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplet A12 - Thick E S1 - Sandy M	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 dicators (check he pipedon istic en Sulfide d Layers Muck ed Below Dark Surface Dark Surface	Color 10YR 10YR ere if india	round m the absence of Matrix (Moist) 4/2 4/2 cators al	95 95 95 re not pre \$4 - Sand \$6 - Stript F1 - Loam F3 - Deplo	2% slope e: C=Concentrat 5YR 5YR sent ly Gleyed ly Gleyed ly Gleyed Matrix ny Muck M ny Gleyed eted Matrix ny Muck M ny Gleyed	Redo Color (Moist) 4/6 4/6	Sovered/Coated Sand Grai DX Features 9/0 5 5 Indicators	Type C C C for Problen A16 - Coast S7 - Dark Si F12 - Iron-M TF12 - Very Other (Explain	Location PL M	(e.g. clay, sand, loar clay loam clay loam	
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	Bottom Depth 7 21 Soil Field Ir A1- Histosol A2- Histos Ha4- Hydroge A5 - Stratifier A12 - Thick E S1 - Sandy N S3 - 5 cm Mt	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 dicators (check he pipedon istic en Sulfide d Layers Muck ed Below Dark Surface Muck Mineral ucky Peat or Peat	Color 10YR 10YR ere if india	round m the absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- indicators.) (Typ % 95 95 enot pre S4 - Sand S6 - Strip F1 - Loam F2 - Loam F3 - Deple F6 - Redc F7 - Deple F8 - Redc	2% slope e: C=Concentrat 5YR 5YR sent ly Gleyed ly Gleyed ly Gleyed Matrix ny Muck M ny Gleyed eted Matrix ny Muck M ny Gleyed	Redo Color (Moist) 4/6 4/6	Covered/Coated Sand Grain Experiment of the Country of the Countr	Type C C C for Problen S7 - Dark Si F12 - Iron-N TF12 - Very Other (Expla	Location PL M	(e.g. clay, sand, loar clay loam clay loam	
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	Bottom Depth 7 21 Soil Field In A1- Histosol A2 - Histic El A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplet A12 - Thick E S1 - Sandy M	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 dicators (check he pipedon istic en Sulfide d Layers Muck ed Below Dark Surface Muck Mineral ucky Peat or Peat	Color 10YR 10YR ere if india	round m the absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- indicators.) (Typ % 95 95 enot pre S4 - Sand S6 - Strip F1 - Loam F2 - Loam F3 - Deple F6 - Redc F7 - Deple	2% slope e: C=Concentrat 5YR 5YR sent ly Gleyed ly Gleyed ly Gleyed Matrix ny Muck M ny Gleyed eted Matrix ny Muck M ny Gleyed	Redo Color (Moist) 4/6 4/6	Sovered/Coated Sand Grai DX Features 9/0 5 5 Indicators	Type C C C for Problen S7 - Dark Si F12 - Iron-N TF12 - Very Other (Expla	Location PL M	(e.g. clay, sand, loar clay loam clay loam	
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric	Bottom Depth 7 21 Soil Field Ir A1- Histosol A2- Histos Ha4- Hydroge A5 - Stratifier A12 - Thick E S1 - Sandy N S3 - 5 cm Mt	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 dicators (check he pipedon istic en Sulfide d Layers Muck ed Below Dark Surface Muck Mineral ucky Peat or Peat	Color 10YR 10YR ere if india	round m the absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- indicators.) (Typ % 95 95 enot pre S4 - Sand S6 - Strip F1 - Loam F2 - Loam F3 - Deple F6 - Redc F7 - Deple F8 - Redc	2% slope e: C=Concentrat 5YR 5YR sent ly Gleyed ly Gleyed ly Gleyed Matrix ny Muck M ny Gleyed eted Matrix ny Muck M ny Gleyed	Redo Color (Moist) 4/6 4/6	Covered/Coated Sand Grain Experiment of the Country of the Countr	Type C C C for Problen S7 - Dark Si F12 - Iron-N TF12 - Very Other (Expla	Location PL M	(e.g. clay, sand, loar clay loam clay loam	
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric Restrictive Layer (If Observed)	Bottom Depth 7 21 Soil Field Ir A1- Histosol A2- Histos Ha4- Hydroge A5 - Stratifier A12 - Thick E S1 - Sandy N S3 - 5 cm Mt	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 dicators (check he pipedon istic en Sulfide d Layers Muck ed Below Dark Surface Muck Mineral ucky Peat or Peat	Color 10YR 10YR ere if india	round m the absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- indicators.) (Typ % 95 95 enot pre S4 - Sand S6 - Strip F1 - Loam F2 - Loam F3 - Deple F6 - Redc F7 - Deple F8 - Redc	2% slope e: C=Concentrat 5YR 5YR sent ly Gleyed ly Gleyed ly Gleyed Matrix ny Muck M ny Gleyed eted Matrix ny Muck M ny Gleyed	Redo Color (Moist) 4/6 4/6	Covered/Coated Sand Grain Experiment of the Country of the Countr	Type C C C for Problen S7 - Dark Si F12 - Iron-N TF12 - Very Other (Expla	Location PL M	(e.g. clay, sand, loar clay loam clay loam	
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 7 NRCS Hydric Restrictive Layer (If Observed)	Bottom Depth 7 21 Soil Field Ir A1- Histosol A2- Histos Ha4- Hydroge A5 - Stratifier A12 - Thick E S1 - Sandy N S3 - 5 cm Mt	Blg1A1 - Blount silt the depth needed to document the inc Horizon 1 2 dicators (check he pipedon istic en Sulfide d Layers Muck ed Below Dark Surface Muck Mineral ucky Peat or Peat	Color 10YR 10YR ere if india	round m the absence of Matrix (Moist) 4/2 4/2 cators al	oraine, 0- indicators.) (Typ % 95 95 enot pre S4 - Sand S6 - Strip F1 - Loam F2 - Loam F3 - Deple F6 - Redc F7 - Deple F8 - Redc	2% slope e: C=Concentrat 5YR 5YR sent ly Gleyed ly Gleyed ly Gleyed Matrix ny Muck M ny Gleyed eted Matrix ny Muck M ny Gleyed	Redo Color (Moist) 4/6 4/6	Covered/Coated Sand Grain Experiment of the Country of the Countr	Type C C C for Problen S7 - Dark Si F12 - Iron-N TF12 - Very Other (Expla	Location PL M	(e.g. clay, sand, loar clay loam clay loam	



Project/Site: Marysville Connector Wetland ID: Wetland 4 Sample Point: SP09 **VEGETATION** (Species identified in all uppercase are non-native species.) **Dominance Test Worksheet** Species Name % Cover Dominant Ind.Status 2. Number of Dominant Species that are OBL, FACW, or FAC: ____1 (A) 3. 4. Total Number of Dominant Species Across All Strata: 1 (B) 5. 6. Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B) 7. Prevalence Index Worksheet 8. 9. ----Total % Cover of: Multiply by: 10. OBL spp. x 1 = --Total Cover = FACW spp. x 2 = x 3 = FAC spp. x 4 = Sapling/Shrub Stratum (Plot size: 15 ft radius) FACU spp. ____ UPL spp. x 5 = 2 Total _____(A) 0 (B) 3. --4. 5. Prevalence Index = B/A = NA 6. 7. 8. **Hydrophytic Vegetation Indicators:** 9. ☑ Yes □ No Rapid Test for Hydrophytic Vegetation 10 □ No Yes Dominance Test is > 50% Total Cover = Yes □ No Prevalence Index is ≤ 3.0 * □ Yes □ No Morphological Adaptations (Explain) * □ No Herb Stratum (Plot size: 5 ft radius) □ Yes Problem Hydrophytic Vegetation (Explain) * Phalaris arundinacea 100 **FACW** * Indicators of hydric soil and wetland hydrology must be 2. present, unless disturbed or problematic. 3. 4. **Definitions of Vegetation Strata:** --5. 6 Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. 10. 11. --Herb - All herbaceous (non-woody) plants, regardless of size, 12 and woody plants less than 3.28 ft. tall. 13. 14. Woody Vines - All woody vines greater than 3.28 ft. in height. 15 Total Cover = Woody Vine Stratum (Plot size: 30 ft radius) 1. 2. Hydrophytic Vegetation Present
Yes No 3. 4. 5. Total Cover = 0 Remarks: Additional Remarks:



Project/Site:	Marysville Co						Stantec Project #:	193707055		Date:	11/20/19	
Applicant:	Columbia Ga			I	!!^	Obs. II	A II			County:	Union	
	tigator #1: Michelle Kearns Investigator #2: Charlie Allen							State:	Ohio			
Soil Unit:						Wetland ID:						
Landform:	Side slope			Loc	al Relief:	Convex				Sample Point:	SP10	
Slope (%):	3	Latitude:	40.2001	L	ongitude:	-83.30386		Datum:	WGS 1984	Community ID:	Upland	
Are climatic/hy	drologic condit	tions on the site ty	pical for	this time	of year?	(If no, expla	in in remarks)	Yes	No	Section:	N/A	
Are Vegetation	r Soil* o	r Hydrology sig	gnificantly	/ disturb	ed?		Are normal circumsta	ances present	?	Township:	N/A	
Are Vegetation			aturally pr				Yes	No		Range:	N/A Dir:	N/A
SUMMARY OF		i riyurology ila	iturany pr	ODICITIAL	10 !		109	140		Range.	IN/A DII.	IN//A
Hydrophytic Ve				Yes	No			Hydric Soils			Yes	
Wetland Hydro	ology Present?			Yes	No			Is This Sam	pling Point	Within A Wetla	and? 🕟 Yes	• No
Remarks: HYDROLOGY												
_		ors (Check here i	f indicato	ors are n	ot presen	t -):						
<u>Primary</u>	_				DO				Secondary:	D0 0 1 -		
	A1 - Surface W				B9 - Wate					B6 - Surface So		
	A2 - High Wate				B13 - Aqu					B10 - Drainage		
	A3 - Saturation				B14 - True					C2 - Dry-Seaso		
	B1 - Water Ma				C1 - Hydr					C8 - Crayfish B		
	B2 - Sediment						spheres on Living Roots				Visible on Aerial	Imagery
	B3 - Drift Depo						educed Iron				Stressed Plants	
	B4 - Algal Mat						duction in Tilled Soils			D2 - Geomorph		
	B5 - Iron Depo			۰	C7 - Thin					D5 - FAC-Neutr	rai lest	
		Visible on Aerial Im	0 ,	0	D9 - Gaug							
	ва - Sparsely \	Vegetated Concave S	ъипасе		Other (Ex	piain in Re	emarks)					
Field Observa	tions:											
					<i>(</i> : \							
Surface Water		Yes No	Depth:		(in.)			Wetland Hy	drology Pr	esent? -	Yes - No	
Water Table P	resent?	Yes No	Depth:		(in.)				0.0 9,			
					()							
Saturation Pre	sent?	Yes No	Depth:		(in.)							
			Depth:	rial nhoto	(in.)	s inspecti	ons) if available:		N/A			
Describe Record		Yes No m gauge, monitorin	Depth:	rial photo	(in.)	s inspecti	ons), if available:		N/A			
			Depth:	rial photo	(in.)	s inspecti	ons), if available:		N/A			
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Describe Record Remarks:			Depth:	rial photo	(in.)	s inspecti	ons), if available:		N/A			
Describe Record Remarks:	ded Data (strea	m gauge, monitorin	Depth:	·	(in.)	·	,		N/A			
Describe Record Remarks: SOILS Map Unit Nam	ded Data (strea	m gauge, monitorin Blg1A1 - Blount sil	Depth:	round m	(in.) s, previous	2% slope	es	-Covered/Coated Sand Grid		ore Lining, M=Matrixi		
Describe Record Remarks: SOILS Map Unit Nam Profile Descri	e: Eption (Describe to the	m gauge, monitorin Blg1A1 - Blount sil	Depth:	round mo	(in.) s, previous	2% slope	SS Son, D=Depletion, RM=Reduced Matrix, CS=			ore Lining, M=Matrix)	Tevtu	re
Describe Record Remarks: SOILS Map Unit Nam Profile Descri	e: Bption (Describe to the	m gauge, monitorin BIg1A1 - Blount sil depth needed to document the in	Depth: g well, aed t loam, gr	round mo	(in.) s, previous oraine, 0- indicators.) (Type	2% slope	PS Ion, D=Depletion, RM=Reduced Matrix, CS= Red	ox Features	ains; Location: PL=P	1	Textu	
Describe Record Remarks: SOILS Map Unit Nam Profile Descri Top Depth	e: Bottom Depth	m gauge, monitorin Blg1A1 - Blount sil depth needed to document the in Horizon	Depth: g well, aed t loam, gi dicator or confirm Color	round mente absence of Matrix (Moist)	(in.) s, previous oraine, 0- indicators.) (Type	2% slope	SS Son, D=Depletion, RM=Reduced Matrix, CS=			ore Lining, M=Matrix)	(e.g. clay, sa	nd, loam
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Describe Record Remarks: SOILS Map Unit Nam Profile Descri Top Depth	e: Bottom Depth	m gauge, monitorin Blg1A1 - Blount sil depth needed to document the in Horizon	Depth: g well, aed t loam, gi dicator or confirm Color	round mente absence of Matrix (Moist)	(in.) s, previous oraine, 0- indicators.) (Type	2% slope	es ion, D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)	ox Features %	Type	Location	(e.g. clay, sa	nd, loam
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Describe Record Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0	e: B ption (Describe to the Bottom Depth 10	Big1A1 - Blount sill depth needed to document the in Horizon 1	Depth: g well, aer t loam, gr dicator or confirm Color 10YR	round mente absence of Matrix (Moist) 4/2	(in.) s, previous praine, 0- indicators.) (Type % 100	2% slope	es ion, D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist) 	ox Features %	Type	Location 	(e.g. clay, sa	nd, loan
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Describe Record Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0	e: B ption (Describe to the Bottom Depth 10	m gauge, monitorin BIg1A1 - Blount sil' depth needed to document the in Horizon 1	Depth: g well, aei t loam, gi dicator or confirm Color 10YR	round months absence of Matrix (Moist) 4/2	(in.) s, previous praine, 0- indicators.) (Typ % 100	2% slope	PS Sion, D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)	ox Features	Type		(e.g. clay, sa clay lo	nd, loam
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Describe Record Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0	e: Eption (Describe to the Bottom Depth 10	m gauge, monitorin Big1A1 - Blount sil' depth needed to document the in Horizon 1	Depth: It loam, git Color 10YR	round mate absence of Matrix (Moist) 4/2	(in.) s, previous oraine, 0- indicators) (Typ % 100	2% slope	Red Color (Moist)	ox Features	Type	Location	(e.g. clay, sa clay lo	nd, loan
Describe Record Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0	e: Eption (Describe to the Bottom Depth 10	m gauge, monitorin BIg1A1 - Blount sil' depth needed to document the in Horizon 1	Depth: It loam, git Color 10YR	round mate absence of Matrix (Moist) 4/2	(in.) s, previous oraine, 0- indicators) (Typ % 100 er not pre	2% slope e: C=Concentrat seent *	Red Color (Moist)	ox Features	Type s for Problem	Location	(e.g. clay, sa clay lo	nd, loam
Describe Record Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0	e: Eption (Describe to the Bottom Depth 10	m gauge, monitorin Big1A1 - Blount sil' depth needed to document the in Horizon 1	Depth: It loam, git Color 10YR	round mate absence of Matrix (Moist) 4/2	(in.) s, previous oraine, 0- indicators) (Typ % 100 re not pre	2% slope e: C=Concentrat seent • y Gleyed	Red Color (Moist)	ox Features	Type s for Probler A16 - Coast	Location	(e.g. clay, sa clay lo	nd, loan
Describe Record Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0	e: Bption (Describe to the Bottom Depth 10	Big1A1 - Blount silladepth needed to document the in Horizon 1 licators (check he	Depth: It loam, git Color 10YR	round mate absence of Matrix (Moist) 4/2	(in.) s, previous praine, 0- indicators) (Typ % 100 e not pre S4 - Sand S5 - Sand	2% slope	Red Color (Moist)	ox Features	Type s for Problem	Location	(e.g. clay, sa clay lo	nd, loan
Describe Record Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0	e: B ption (Describe to the Bottom Depth 10	Big1A1 - Blount silladepth needed to document the in Horizon 1 licators (check he	Depth: It loam, git Color 10YR	round mate absence of Matrix (Moist) 4/2	(in.) s, previous oraine, 0- indicators) (Typ % 100 re not pre	2% slope	Red Color (Moist)	ox Features	Type Type s for Probler S7 - Dark S F12 - Iron-N	Location	(e.g. clay, sa clay local 	nd, loan
Describe Record Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0	e: Bption (Describe to the Bottom Depth 10	Big1A1 - Blount sill depth needed to document the in Horizon 1 licators (check he	Depth: It loam, git Color 10YR	round mate absence of Matrix (Moist) 4/2	(in.) s, previous	2% slope	Red Color (Moist)	ox Features	Type Type s for Probler S7 - Dark S F12 - Iron-N	Location	(e.g. clay, sa clay local 	nd, loan
Describe Record Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0	e: B ption (Describe to the Bottom Depth 10	Big1A1 - Blount sill Big1A1 -	Depth: It loam, git Color 10YR	round mate absence of Matrix (Moist) 4/2	(in.) s, previous	2% slope e: C=Concentrat	Red Color (Moist)	ox Features	Type s for Probler A16 - Coast S F12 - Iron-M TF12 - Very	Location	(e.g. clay, sa clay local 	nd, loan
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Describe Record Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0	e: Bption (Describe to the Bottom Depth 10	Big1A1 - Blount sill depth needed to document the in Horizon 1	Depth: Ig well, aei It loam, gi dicator or confirm Color 10YR	round mate absence of Matrix (Moist) 4/2	(in.) s, previous oraine, 0- indicators) (Typ % 100 en not pre \$4 - Sand \$5 - Stripp F1 - Loam F2 - Loam	2% slope E: C=Concentrat sent • y Gleyed I y Redox yed Matrix yy Muck M yy Gleyed eted Matrix	Red Color (Moist)	ox Features	Type s for Probler A16 - Coast S F12 - Iron-M TF12 - Very	Location	(e.g. clay, sa clay local 	nd, loan
Describe Record Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0	e: Bption (Describe to the Bottom Depth 10	Big1A1 - Blount sill Big1A1 - Blount sill depth needed to document the in Horizon 1 licators (check he pedon tic Sulfide Layers ck	Depth: Ig well, aei It loam, gi dicator or confirm Color 10YR	round mate absence of Matrix (Moist) 4/2	(in.) s, previous	2% slope : C=Concentrat	Red Color (Moist)	ox Features	Type s for Probler A16 - Coast S F12 - Iron-M TF12 - Very	Location	(e.g. clay, sa clay local 	nd, loan
Describe Record Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0	e: Bettom (Describe to the Bottom Depth 10	Big1A1 - Blount sill Big1A1 - Blount sill depth needed to document the in Horizon 1 licators (check he pedon tic Sulfide Layers ck I Below Dark Surface ark Surface	Depth: Ig well, aei It loam, gi dicator or confirm Color 10YR	round mate absence of Matrix (Moist) 4/2	(in.) s, previous	2% slope B. C=Concentrat	Red Color (Moist)	ox Features	Type s for Probler A16 - Coast S F12 - Iron-M TF12 - Very	Location	(e.g. clay, sa clay local 	nd, loan
Describe Record Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0	e: Bption (Describe to the Bottom Depth 10	Big1A1 - Blount sill Big1A1 - Blount sill depth needed to document the in Horizon 1 licators (check he pedon tic Sulfide Layers ck I Below Dark Surface ark Surface	Depth: Ig well, aei It loam, gi dicator or confirm Color 10YR	round mate absence of Matrix (Moist) 4/2	(in.) s, previous	2% slope B. C=Concentrat	Red Color (Moist)	ox Features % Indicators	Type s for Probler A16 - Coast F12 - Iron-M TF12 - Very Other (Expla	Location	(e.g. clay, sa clay local 	nd, loam
Describe Record Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0 NRCS Hydric	e: Bption (Describe to the Bottom Depth 10	Big1A1 - Blount sill Big1A1 -	Depth: Ig well, aei It loam, gi dicator or confirm Color 10YR	round mate absence of Matrix (Moist) 4/2	(in.) s, previous	2% slope B. C=Concentrat	Red Color (Moist)	ox Features % Indicators	Type s for Probler S7 - Dark S F12 - Iron-N TF12 - Very Other (Expla	Location	es clay, sa clay local control	nd, loam
Describe Record Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0 NRCS Hydric	e: Bption (Describe to the Bottom Depth 10	Big1A1 - Blount sill Big1A1 -	Depth: Ig well, aei It loam, gi dicator or confirm Color 10YR	round mn the absence of Matrix (Moist) 4/2 cators ar	(in.) s, previous	2% slope B. C=Concentrat	Red Color (Moist)	ox Features % Indicators 1 Indicators of hydrophy	Type s for Probler S7 - Dark S F12 - Iron-N TF12 - Very Other (Expla	Location	es urface	nd, loan
Describe Record Remarks: SOILS Map Unit Nam Profile Descri Top Depth 0 NRCS Hydric	e: Bption (Describe to the Bottom Depth 10	Big1A1 - Blount sill Big1A1 -	Depth: Ig well, aei It loam, gi dicator or confirm Color 10YR	round mn the absence of Matrix (Moist) 4/2 cators ar	(in.) s, previous	2% slope B. C=Concentrat	Red Color (Moist)	ox Features % Indicators 1 Indicators of hydrophy	Type s for Probler S7 - Dark S F12 - Iron-N TF12 - Very Other (Expla	Location	es urface	nd, loan



Project/Site: Marysville Connector Wetland ID: Wetland 4 Sample Point: SP10

VEGETATION		ative spe	cies.)		
Tree Stratum (Pl	ot size: 30 ft radius) <u>Species Name</u>	0/ ₂ Cave	Dominant	Ind.Status	Dominance Test Worksheet
1.	Species Name	% Cover	Dominant 	ind.Status	Dominance rest worksneet
2.					Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)
3.					(1)
4.					Total Number of Dominant Species Across All Strata: 1 (B)
5.					(=)
6.					Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)
7.					
8.					Prevalence Index Worksheet
9.					Total % Cover of: Multiply by:
10.	<u></u>				OBL spp x 1 =
	Total Cover =	0			FACW spp. $x 2 =$
					FAC spp x 3 =
	ratum (Plot size: 15 ft radius)				FACU spp.
1. 2.					OPL spp
3.					Total(A)(B)
4.					(A)(D)
5.					Prevalence Index = B/A =
6.					
7.					
8.					Hydrophytic Vegetation Indicators:
9.					 Yes No Rapid Test for Hydrophytic Vegetation
10.					YesNoDominance Test is > 50%
	Total Cover =	0			 Yes No Prevalence Index is ≤ 3.0 *
					 Yes No Morphological Adaptations (Explain) *
	ot size: 5 ft radius)				Yes No Problem Hydrophytic Vegetation (Explain) *
1.	Poa pratensis	90	Y	FAC	* Indicators of hydric soil and wetland hydrology must be
2.	Taraxacum officinale	5	N	FACU	present, unless disturbed or problematic.
3. 4.	Plantago lanceolata	5	N	FACU	Definitions of Variation Strate:
5.					Definitions of Vegetation Strata:
6					Tree - Woody plants 3 in. (7.6cm) or more in diameter at
7.					breast height (DBH), regardless of height.
8.					
9.					Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28
10.					ft. tall.
11.			-		
12.					Herb - All herbaceous (non-woody) plants, regardless of size,
13.					and woody plants less than 3.28 ft. tall.
14.					
15.					Woody Vines - All woody vines greater than 3.28 ft. in height.
	Total Cover =	100			
	tum (Plot size: 30 ft radius)				
1.					
2. 3.					Hydrophytic Vegetation Present · Yes · No
3. 4.					nyurophytic vegetation Present • Tes • No
5.					
Ų.	Total Cover =	0			
Remarks:	. 3 20701			<u> </u>	

MARYSVILLE CONNECTOR PIPELINE PROJECT WETLAND AND WATERBODY DELINEATION REPORT

B.2 ORAM FORMS



	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization				
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001			

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

Name: Angela Sjollema Date: 11/20/2019 Affiliation: Stantec Consulting Services Inc. Address: 1500 Lake Shore Drive, Suite 100, Columbus, Ohio 43204 Phone Number: 614-643-4400 e-mail address: angela.sjollema@stantec.com Name of Wetland: Wetland 1 Vegetation Communit(ies): torsearch

3.254306

36 HGM Class(es): Depression Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. Jacobs & Lat/Long or UTM Coordinate 40.183979, -83.254306 Marysville and Shawnee Hills Topo Quads County Union Township Section and Subsection Hydrologic Unit Code 50600011904 (Sugar Run) Site Visit 11/20/2019 National Wetland Inventory Map Yes Ohio Wetland Inventory Map No Soil Survey Union County Soil Survey Delineation report/map Figure 4 - Wetland and Waterbody Delineation Report

Final score: 32 Category: 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.

Wetland 1 Angela Sjollema 11/20/2019

#	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.	X	
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.	X	
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.	X	
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.		X
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
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.	X	

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.

Wetland 1 Angela Sjollema 11/20/2019

#	Question	Circle one	
1	Critical Habitat. 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	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. 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	So to Question 5
5	Category 1 Wetlands. 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 Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, 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	Bogs. 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	Fens. 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 Solution 8 Solution
8a	"Old Growth Forest." 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 So to Question 8b

Wetland 1	Angela Sjollema		11/20/2019
8b	Mature forested wetlands. 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?	Wetland should be evaluated for possible Category 3 status.	NO So to Question 9a
9a	Lake Erie coastal and tributary wetlands. 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?	Go to Question 9a YES Go to Question 9b	NO X 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?	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	Lake Plain Sand Prairies (Oak Openings) 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	NO Solution
11	Relict Wet Prairies. 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.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		C
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

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

Site: Wetland	Rater(s):Angela Sjollema Date: 11/20/2019
2 2	Metric 1. Wetland Area (size).
max 6 pts. subtotal	Select one size class and assign score. Solution
1 3	Metric 2. Upland buffers and surrounding land use.
max 14 pts. subtotal	2a. Calculate average buffer width. Select only one and assign score. Do not double check. WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4) NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1) ✓ VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0) 2b. Intensity of surrounding land use. Select one or double check and average. VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7) LOW. Old field (>10 years), 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)
17 20	Metric 3. Hydrology.
max 30 pts. subtotal	3a. Sources of Water. Score all that apply. High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) 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) 3b. Connectivity. Score all that apply. 100 year floodplain (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 chec Semi- to permanently inundated/saturated (4) Regularly inundated/saturated (3) Seasonally inundated (2) Seasonally saturated in upper 30cm (12in) (1) 3e. Modifications to natural hydrologic regime. 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 J ditch Dilling/grading road bed/RR track Weir Dilling/grading road bed/RR track dredging other other
15 35	Metric 4. Habitat Alteration and Development.
max 20 pts. subtotal	 4a. Substrate disturbance. Score one or double check and average. ✓ None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only one and assign score. Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) ✓ Poor to fair (2)
	Poor (1) 4c. Habitat alteration. Score one or double check and average.
35 subtotal this pa	<u> </u>

Site: Wetland 1 Rat	er(s): Angela	Sjollema	Date: 11/20/2019
35 subtotal first page Metric 5. Special Wetla	ands.		
0 35 Wettic 5. Special Wettic			
max 10 pts. subtotal Check all that apply and score as indicated Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetlan Lake Erie coastal/tributary wetlan Lake Plain Sand Prairies (Oak C Relict Wet Prairies (10) Known occurrence state/federal Significant migratory songbird/wa Category 1 Wetland. See Quest	nd-unrestricted hydro nd-restricted hydro openings) (10) threatened or enda ater fowl habitat or tion 1 Qualitative R	angered species (10) usage (10) Rating (-10)	
-3 32 Metric 6. Plant commu	ınities, int	erspersion, microto	opography.
max 20 pts. subtotal 6a. Wetland Vegetation Communities.	Vegetation	Community Cover Scale	
Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2	471 acres) contiguous area
Aquatic bed	1	Present and either comprises sm	
1 Emergent		vegetation and is of moderate	quality, or comprises a
Shrub		significant part but is of low qua	-
Forest	2	Present and either comprises sig	
Mudflats Open water		vegetation and is of moderate of part and is of high quality	quality of comprises a small
Other	3	Present and comprises significar	nt part, or more, of wetland's
6b. horizontal (plan view) Interspersion.		vegetation and is of high quality	
Select only one.			
High (5)		escription of Vegetation Quality	inner of manuality an
Moderately high(4) Moderate (3)	low	Low spp diversity and/or predom disturbance tolerant native spe	
Moderately low (2)	mod	Native spp are dominant compor	
✓ Low (1)		although nonnative and/or dist	_
None (0)		can also be present, and speci	•
6c. Coverage of invasive plants. Refer		moderately high, but generally	
to Table 1 ORAM long form for list. Add or deduct points for coverage	high	threatened or endangered spp A predominance of native specie	
Extensive >75% cover (-5)	mgn	and/or disturbance tolerant nat	
Moderate 25-75% cover (-3)		absent, and high spp diversity	
Sparse 5-25% cover (-1)		the presence of rare, threatene	ed, or endangered spp
Nearly absent <5% cover (0) Absent (1)	Mudflet en	d Open Water Class Quality	
6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 a	cres)
0 Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.8	8 acres)
O Coarse woody debris >15cm (6ir	,	High 4ha (9.88 acres) or more	
O Standing dead >25cm (10in) dbh		graphy Cover Scale	
0 Amphibian breeding pools	0	Absent	
	1	Present very small amounts or if	more common
		of marginal quality	
	2	Present in moderate amounts, but quality or in small amounts of h	
	3	Present in moderate or greater a	
	Č	and of highest quality	
32	-	<u> </u>	

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

Wetland 1 Angela Sjollema 11/20/2019

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	NO	If yes, Category 3.
	Question 4. Significant bird habitat	NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	NO	If yes, Category 1.
	Question 6. Bogs	NO	If yes, Category 3.
	Question 7. Fens	NO	If yes, Category 3.
	Question 8a. Old Growth Forest	NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	NO	If yes, Category 3
	Question 11. Relict Wet Prairies	NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
Ü	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	17	
	Metric 4. Habitat	15	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-3	
	TOTAL SCORE	32	Category based on score breakpoints Category 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Angela Sjollema

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 X	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 overcategorized 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 X	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 X	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?	Wetland is assigned to the appropriate category based on the scoring range	NO X	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?	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 moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not 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?	Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	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				
Choose one	Category 1	Category 2	Category 3	
Category 2				

End of Ohio Rapid Assessment Method for Wetlands.

Version 5.0	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization		
	Background Information		
	Scoring Boundary Worksheet Narrative Rating	Ohio EPA, Division of Surface Water	
	Field Form Quantitative Rating	Final: February 1, 2001	
	ORAM Summary Worksheet Wetland Categorization Worksheet		

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

Name: Michelle Kearns	
Date: 11/20/2019	
Affiliation: Stantec Consulting Services Inc.	
Address: 1500 Lake Shore Drive, Suite 100, Columbus, Ohio 43204	
Phone Number: 614-486-4383	
e-mail address: michelle.kearns@stantec.com	
Name of Wetland: Wetland 2	
Vegetation Communit(ies): PEM	
HGM Class(es): Depression	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	X 1
Ag fuld	IN
- Adelsberger Rd	proportion by the state of the
C withand 2	E straight and a stra
writiand 2	\rightarrow)
10 (11)	4
A8 T1610	3
	ram 2
2 - 4	IN
The state of the s	
Lat/Long or UTM Coordinate 40.196261, -83.29241	
USGS Quad Name Marysville Topo Quad	
County Union	
Township	
Section and Subsection	
Hydrologic Unit Code 50600010604 (Lower Mill Creek)	
Site Visit 11/20/2019	
National Wetland Inventory Map Yes	
Ohio Wetland Inventory Map	
Soil Survey Union County Soil Survey	
Delineation report/map Figure 4 - Wetland and Waterbody Delineation Report	

Name of Wetland: Wetland 2	
Wetland Size (acres, hectares): 0.10 acres	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	A
Ag Fuld	TN
Adelsberger Pd	
wHand 2	>)
Agfuld	(7)
	Tann
	15
	P
Comments, Narrative Discussion, Justification of Category Changes:	
Final score: 25 Catego	ory: 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.

Wetland 2 Michelle Kearns 11/20/2019

#	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.	X	
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.	X	
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.	\times	
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.		X
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
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.	X	

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.

Wetland 2 Michelle Kearns 11/20/2019

#	Question	Circle one	
1	Critical Habitat. 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 So to Question 2
2	Threatened or Endangered Species. 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	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. 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 So to Question 5
5	Category 1 Wetlands. 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 Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, 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 So to Question 6
6	Bogs. 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 So to Question 7
7	Fens. 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 So to Question 8a
8a	"Old Growth Forest." 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 spags and downed logs?	Wetland is a Category 3 wetland. Go to Question 8b	NO So to Question 8b

Wetland 2	Michelle Kearns		11/20/2019
8b	Mature forested wetlands. 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?	Wetland should be evaluated for possible Category 3 status.	NO So to Question 9a
9a	Lake Erie coastal and tributary wetlands . 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?	Go to Question 9a YES Go to Question 9b	NO X 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?	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	Lake Plain Sand Prairies (Oak Openings) 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	NO Solution NO Go to Question 11
11	Relict Wet Prairies. 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	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		C
	Solidago ohioensis	3 33		
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

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

Site: Wetland 2	Rater(s): Mich	elle Kearns	Date: 11/20/2019
1 1	Metric 1. Wetland Area (size).		
max 6 pts. subtotal	Select one size class and assign score. >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts) 0.3 to <3 acres (0.12 to <1.2ha) (2pts) ✓ 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) <0.1 acres (0.04ha) (0 pts)		
1 2	Metric 2. Upland buffers and s	urrounding land use	
max 14 pts. subtotal	2a. Calculate average buffer width. Select only one and a WIDE. Buffers average 50m (164ft) or more arc MEDIUM. Buffers average 25m to <50m (82 to NARROW. Buffers average 10m to <25m (32ft ✓ VERY NARROW. Buffers average <10m (<32ft 2b. Intensity of surrounding land use. Select one or dout VERY LOW. 2nd growth or older forest, prairie, LOW. Old field (>10 years), shrub land, young some MODERATELY HIGH. Residential, fenced past ✓ HIGH. Urban, industrial, open pasture, row crop	ound wetland perimeter (7) <164ft) around wetland perimeter (4) to <82ft) around wetland perimeter (1) around wetland perimeter (0) ole check and average. savannah, wildlife area, etc. (7) second growth forest. (5) ure, park, conservation tillage, new fal	
12 14	Metric 3. Hydrology.		
max 30 pts. subtotal	3a. Sources of Water. Score all that apply. High pH groundwater (5) Other groundwater (3) ✓ Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) 3c. Maximum water depth. Select only one and assign so >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	Part of wetland/ Part of riparian of ripar	lain (1) n/lake and other human use (1) upland (e.g. forest), complex (1) or upland corridor (1) aturation. Score one or dbl check. nently inundated/saturated (4) ated/saturated (3)
	None or none apparent (12) Recovered (7) Recovering (3) Recent or no recovery (1) Check all disturba ditch tile dike weir stormwater i	point source (no filling/grading road bed/RR tra	
14 28	Metric 4. Habitat Alteration and	d Development.	
max 20 pts. subtotal	4a. Substrate disturbance. Score one or double check an ✓ None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only one and assign sco 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 ave		
28 subtotal this pa	Recovered (6) Recovering (3) Recent or no recovery (1) Recent or no recovery (1) Recovering (3) Recent or no recovery (1) Recovering (3) Recovering (3) Recovering (3) Recovering (4) Recovering (4) Recovering (5) Recovering (6) Recovering (7) Recovering (7) Recovering (7) Recovering (8) Recovering (7) Recovering (8) Recovering (8) Recovering (9) Recovering (9) Recovering (9) Recovering (1)	shrub/sapling re herbaceous/aqu sedimentation dredging s removal farming	uatic bed removal

Site: W	/etland	Rater	(s): Michell	e Kearns	Date: 11/20/2019
Oito: ·	, ottarra		(C) I WHOTOIN	o reamo	Dato:
	28				
su	btotal first pa	ge			
0	28	Metric 5. Special Wetlan	ds.		
max 10 pts.	subtotal	Check all that apply and score as indicated.			
		Bog (10)			
		Fen (10) Old growth forest (10)			
		Mature forested wetland (5)			
		Lake Erie coastal/tributary wetland-u			
		Lake Erie coastal/tributary wetland-re		ology (5)	
		Lake Plain Sand Prairies (Oak Open Relict Wet Prairies (10)	ings) (10)		
		Known occurrence state/federal thre	atened or enda	angered species (10)	
		Significant migratory songbird/water	fowl habitat or	usage (10)	
		Category 1 Wetland. See Question	1 Qualitative R	ating (-10)	
-3	25	Metric 6. Plant communi	ities, int	erspersion, microto	pography.
-3	2			•	
max 20 pts.	subtotal	6a. Wetland Vegetation Communities.		Community Cover Scale	
		Score all present using 0 to 3 scale. Aquatic bed	0	Absent or comprises <0.1ha (0.24) Present and either comprises sm	
		1 Emergent	,	vegetation and is of moderate of	
		Shrub		significant part but is of low qua	lity
		Forest	2	Present and either comprises sign	
		Mudflats Open water		vegetation and is of moderate of part and is of high quality	quality or comprises a small
		Other	3	Present and comprises significan	t part, or more, of wetland's
		6b. horizontal (plan view) Interspersion.		vegetation and is of high quality	
		Select only one.			
		High (5) Moderately high(4)	low	Low spp diversity and/or predomi	nance of nonnative or
		Moderate (3)	1000	disturbance tolerant native spec	
		Moderately low (2)	mod	Native spp are dominant compon	•
		✓ Low (1)		although nonnative and/or distu	
		None (0) 6c. Coverage of invasive plants. Refer		can also be present, and specie moderately high, but generally was a second control of the can be ca	-
		to Table 1 ORAM long form for list. Add		threatened or endangered spp	
		or deduct points for coverage	high	A predominance of native species	s, with nonnative spp
		✓ Extensive >75% cover (-5)		and/or disturbance tolerant nati	
		Moderate 25-75% cover (-3) Sparse 5-25% cover (-1)		absent, and high spp diversity a the presence of rare, threatener	
		Nearly absent <5% cover (0)		,	, 5 11
		Absent (1)	Mudflat and	d Open Water Class Quality	
		6d. Microtopography.	0 1	Absent <0.1ha (0.247 acres)	oroo)
		Score all present using 0 to 3 scale. O Vegetated hummucks/tussucks	2	Low 0.1 to <1ha (0.247 to 2.47 ac Moderate 1 to <4ha (2.47 to 9.88	
		0 Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more	
		0 Standing dead >25cm (10in) dbh			
		0 Amphibian breeding pools		raphy Cover Scale	
			0 1	Absent Present very small amounts or if	more common
				of marginal quality	
			2	Present in moderate amounts, bu	_
			3	quality or in small amounts of h	
	•		3	Present in moderate or greater are and of highest quality	nounts
25				1 3 17	

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

Wetland 2 Michelle Kearns 11/20/2019

	WHO TO THE	circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	NO	If yes, Category 3.
	Question 4. Significant bird habitat	NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	NO	If yes, Category 1.
	Question 6. Bogs	NO	If yes, Category 3.
	Question 7. Fens	NO	If yes, Category 3.
	Question 8a. Old Growth Forest	NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	NO	If yes, Category 3
	Question 11. Relict Wet Prairies	NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	14	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-3	
	TOTAL SCORE	25	Category based on score breakpoints Category 1

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	Wetland is categorized as a Category 3 wetland	NO X	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 overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	Wetland should be evaluated for possible Category 3 status	NO X	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	Wetland is categorized as a Category 1 wetland	NO X	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?	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?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO X	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 moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not 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?	Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	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				
Choose one	Category 1	Category 2	Category 3	
Category 1	\overline{X}			

End of Ohio Rapid Assessment Method for Wetlands.

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization		
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001	

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

Name: Michelle Kearns

Date: 11/20/2019

Affiliation:

Stantec Consulting Services Inc.

Address:

1500 Lake Shore Drive, Suite 100, Columbus, Ohio 43204

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.

Phone Number:

614-486-4383

e-mail address:

michelle.kearns@stantec.com

Name of Wetland: Wetland 3

Vegetation Communit(ies):

PEM

HGM Class(es):

Depression

Lat/Long or UTM Coordinate 40.199725, -83.3033

USGS Quad Name Marysville Topo Quad

County Union

Township

Section and Subsection

Hydrologic Unit Code 50600010604 (Lower Mill Creek)

Site Visit 11/20/2019

National Wetland Inventory Map Yes

Ohio Wetland Inventory Map No

Soil Survey Union County Soil Survey

Delineation report/map Figure 4 - Wetland and Waterbody Delineation Report

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.

Wetland 3 Michelle Kearns 11/20/2019

#	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.	X	
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.	X	
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.	X	
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.		X
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
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.	X	

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.

Wetland 3 Michelle Kearns 11/20/2019

#	Question	Circle one	
1	Critical Habitat. 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 So to Question 2
2	Threatened or Endangered Species. 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	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. 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 So to Question 5
5	Category 1 Wetlands. 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 Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, 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 So to Question 6
6	Bogs. 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 So to Question 7
7	Fens. 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 So to Question 8a
8a	"Old Growth Forest." 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 spags and downed logs?	Wetland is a Category 3 wetland. Go to Question 8b	NO So to Question 8b

Wetland 3	Michelle Kearns		11/20/2019
8b	Mature forested wetlands. 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?	Wetland should be evaluated for possible Category 3 status.	NO So to Question 9a
9a	Lake Erie coastal and tributary wetlands . 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?	Go to Question 9a YES Go to Question 9b	NO Solution 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?	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
9 e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) 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	NO Go to Question 11
11	Relict Wet Prairies. 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.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		C
	Solidago ohioensis	3 33		
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

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

Site: W	Vetland :	Rater(s): Michelle Kearns	Date: 11/20/2019
0	0	Metric 1. Wetland Area (size).	
max 6 pts.	subtotal	Select one size class and assign score.	
1	1	Metric 2. Upland buffers and surrounding land use.	
max 14 pts.	subtotal	2a. Calculate average buffer width. Select only one and assign score. Do not double check. WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4) NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1) VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0) 2b. Intensity of surrounding land use. Select one or double check and average. VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7) LOW. Old field (>10 years), shrub land, young second growth forest. (5) MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow the first park industrial, open pasture, row cropping, mining, construction. (1)	ow field. (3)
11	12	Metric 3. Hydrology.	
max 30 pts.	subtotal	✓ Precipitation (1)Part of wetland/uSeasonal/Intermittent surface water (3)✓ Part of riparian of of	nin (1) lake and other human use (1) pland (e.g. forest), complex (1) r upland corridor (1) uration. Score one or dbl check. ently inundated/saturated (4) ted/saturated (3)
		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) None or none apparent (12) Check all disturbances observed ditch point source (nor filling/grading) dike weir dredging other	nstormwater)
6	18	Metric 4. Habitat Alteration and Development.	
max 20 pts.	subtotal	 4a. Substrate disturbance. Score one or double check and average. ✓ None or none apparent (4) — Recovered (3) — Recovering (2) — Recent or no recovery (1) 4b. Habitat development. Select only one and assign score. 	
		Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1)	
	18	4c. Habitat alteration. Score one or double check and average. None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1) Record or no recovery (1) Recovering (3) Recovering (3) Recovering (3) Recovering (4) Recovering (5) Recovering (7) Recovering (8) Recovering (9)	
SI	ubtotal this pa	toxic pollutants nutrient enrichme	ent
last revised	l 1 Februa	ry 2001 jjm	

Site: V	/etland	3	Rater(s): Michelle	Kearns	Date: 11/20/2019
	18 btotal first pa				
0	18	Metric 5. Special W	etlands.		
max 10 pts.	subtotal	Check all that apply and score as indi Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5 Lake Erie coastal/tributary Lake Plain Sand Prairies (0 Relict Wet Prairies (10) Known occurrence state/fe Significant migratory songb Category 1 Wetland. See (10)) wetland-unrestricted hydrolo wetland-restricted hydrolo Dak Openings) (10) deral threatened or enda ird/water fowl habitat or u	ngered species (10) usage (10)	
-3	15	Metric 6. Plant com	munities, inte	erspersion, microto	pography.
max 20 pts.	subtotal	I 6a. Wetland Vegetation Communities	S. Vegetation (Community Cover Scale	
		Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.24	171 acres) contiguous area
		Aquatic bed	1	Present and either comprises small	all part of wetland's
		1 Emergent		vegetation and is of moderate of	uality, or comprises a
		Shrub		significant part but is of low qua	
		Forest	2	Present and either comprises sign	nificant part of wetland's
		Mudflats		vegetation and is of moderate of	
		Open water		part and is of high quality	
		Other	3	Present and comprises significan	t part, or more, of wetland's
		6b. horizontal (plan view) Interspersion	on.	vegetation and is of high quality	
		Select only one.		, ,	
		High (5)	Narrative De	escription of Vegetation Quality	
		Moderately high(4)	low	Low spp diversity and/or predomi	nance of nonnative or
		Moderate (3)		disturbance tolerant native spec	
		Moderately low (2)	mod	Native spp are dominant compon	
		✓ Low (1)		although nonnative and/or distu	=
		None (0)		can also be present, and specie	
		6c. Coverage of invasive plants. Ref	er	moderately high, but generally	-
		to Table 1 ORAM long form for list. A		threatened or endangered spp	6
		or deduct points for coverage	high	A predominance of native species	s with nonnative spp
		✓ Extensive >75% cover (-5)	· · · · · ·	and/or disturbance tolerant nation	
		Moderate 25-75% cover (-3	3)	absent, and high spp diversity a	, ,
		Sparse 5-25% cover (-1)	')	the presence of rare, threatened	
		Nearly absent <5% cover (٥١	the presence of fare, threatened	a, or charigered 3pp
		Absent (1)	,	Open Water Class Quality	
		6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 acres)	eroe)
				Moderate 1 to <4ha (2.47 to 9.88	-
		0 Vegetated hummucks/tussi			s acres)
		O Coarse woody debris >15c	· '	High 4ha (9.88 acres) or more	
		0 Standing dead >25cm (10in	,	ranhy Coyor Saala	
		Amphibian breeding pools		Taphy Cover Scale	
			0	Absent	mara aamman
			1	Present very small amounts or if	HOIE COMMON
				of marginal quality	t not of bight
			2	Present in moderate amounts, bu	
				quality or in small amounts of h	
	r		3	Present in moderate or greater ar	nounts
4.5				and of highest quality	
15					

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

Wetland 3 Michelle Kearns 11/20/2019

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	NO	If yes, Category 3.
	Question 4. Significant bird habitat	NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	NO	If yes, Category 1.
	Question 6. Bogs	NO	If yes, Category 3.
	Question 7. Fens	NO	If yes, Category 3.
	Question 8a. Old Growth Forest	NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	NO	If yes, Category 3
	Question 11. Relict Wet Prairies	NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
J	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	11	
	Metric 4. Habitat	6	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-3	
	TOTAL SCORE	15	Category based on score breakpoints Category 1

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 X	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 overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	Wetland should be evaluated for possible Category 3 status	NO X	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 X	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?	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?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO X	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 moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not 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?	Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	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				
Choose one	Category 1	Category 2	Category 3	
Category 1	\overline{X}			

End of Ohio Rapid Assessment Method for Wetlands.

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Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001	

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The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

Name: Michelle Kearns

Date: 11/20/2019

Affiliation:

Stantec Consulting Services Inc.

Address:

1500 Lake Shore Drive, Suite 100, Columbus, Ohio 43204

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.

Phone Number:

614-486-4383

e-mail address:

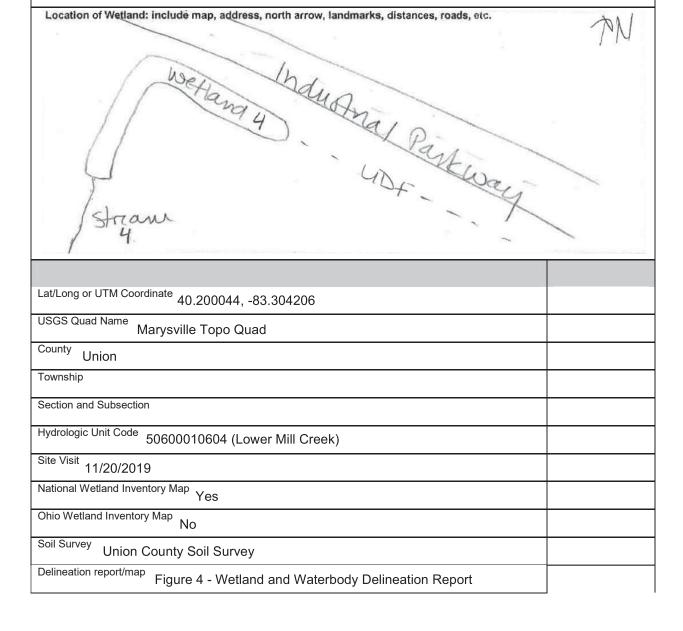
michelle.kearns@stantec.com

Name of Wetland: Wetland 4

Vegetation Communit(ies):

HGM Class(es):

Depression



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.

Wetland 4 Michelle Kearns 11/20/2019

#	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.	X	
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.	X	
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.	X	
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.		X
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
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.	X	

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.

Wetland 4 Michelle Kearns 11/20/2019

#	Question	Circle one	
1	Critical Habitat. 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 So to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	NO So to Question 4
4	Significant Breeding or Concentration Area. 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 So to Question 5
5	Category 1 Wetlands. 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 Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, 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 So to Question 6
6	Bogs. 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 So to Question 7
7	Fens. 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 So to Question 8a
8a	"Old Growth Forest." 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?	Wetland is a Category 3 wetland. Go to Question 8b	NO So to Question 8b

and 4	Michelle Kearns		11/20/2019
8b	Mature forested wetlands. 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?	Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO So to Question 9a
9a	Lake Erie coastal and tributary wetlands . 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 X 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?	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	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?	Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) 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	NO Go to Question 11
11	Relict Wet Prairies. 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.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		C
	Solidago ohioensis	3 33		
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

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

Site: Wetland	Rater(s): Michelle Kearns Date: 11/20/2019
0 0	Metric 1. Wetland Area (size).
max 6 pts. subtotal	Select one size class and assign score. >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts) 0.3 to <3 acres (0.12 to <1.2ha) (2pts) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) ✓ <0.1 acres (0.04ha) (0 pts)
3 3	Metric 2. Upland buffers and surrounding land use.
max 14 pts. subtotal	2a. Calculate average buffer width. Select only one and assign score. Do not double check. WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4) NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1) VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0) 2b. Intensity of surrounding land use. Select one or double check and average. VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7) LOW. Old field (>10 years), 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)
20 23	Metric 3. Hydrology.
max 30 pts. subtotal	3a. Sources of Water. Score all that apply. High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) 3c. Maximum water depth. Select 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) Seasonally hat apply. 100 year floodplain (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) 3e. Modifications to natural hydrologic regime. Score one or double check and average.
	✓ None or none apparent (12) Check all disturbances observed Recovered (7) ditch point source (nonstormwater) Recovering (3) tile filling/grading Recent or no recovery (1) dike road bed/RR track weir dredging stormwater input other
14 37	Metric 4. Habitat Alteration and Development.
max 20 pts. subtotal	 4a. Substrate disturbance. Score one or double check and average. ✓ None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only one and assign score. Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2)
	 ✓ Poor (1) 4c. Habitat alteration. Score one or double check and average.
37 subtotal this pa	

Site: V	Vetland	4 Rat	ter(s): Michelle	e Kearns	Date: 11/20/2019
Oitoi :	rouaria		ior (o) i miorione	rtearne	Dato:
	37				
SL	L ubtotal first pa	J ge			
0	37	Metric 5. Special Wetl	ands.		
max 10 pts.	subtotal	Check all that apply and score as indicated	d.		
		Bog (10)			
		Fen (10)			
		Old growth forest (10) Mature forested wetland (5)			
		Lake Erie coastal/tributary wetla	nd-unrestricted hyd	rology (10)	
		Lake Erie coastal/tributary wetla	-		
		Lake Plain Sand Prairies (Oak C	Openings) (10)		
		Relict Wet Prairies (10) Known occurrence state/federal	threatened or ends	ungared species (10)	
		Significant migratory songbird/w			
		Category 1 Wetland. See Ques		• , ,	
_		Metric 6. Plant commu	unities, inte	erspersion, microto	pography.
-3	34			,	, o 9. o.p
max 20 pts.	subtotal	6a. Wetland Vegetation Communities.	Vegetation	Community Cover Scale	
		Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.24	
		Aquatic bed	1	Present and either comprises small	
		1 Emergent Shrub		vegetation and is of moderate q significant part but is of low qual	•
		Forest	2	Present and either comprises sign	-
		Mudflats		vegetation and is of moderate q	
		Open water		part and is of high quality	
		Other 6b. horizontal (plan view) Interspersion.	3	Present and comprises significant vegetation and is of high quality	
		Select only one.		vegetation and is of high quality	
		High (5)	Narrative D	escription of Vegetation Quality	
		Moderately high(4)	low	Low spp diversity and/or predomin	
		Moderately low (2)	mod	Native spp are dominant component	
		Moderately low (2) ✓ Low (1)	mod	although nonnative and/or distu	•
		None (0)		can also be present, and specie	
		6c. Coverage of invasive plants. Refer		moderately high, but generally v	
		to Table 1 ORAM long form for list. Add	L. L. L.	threatened or endangered spp	
		or deduct points for coverage ✓ Extensive >75% cover (-5)	high	A predominance of native species and/or disturbance tolerant nativ	
		Moderate 25-75% cover (-3)		absent, and high spp diversity a	
		Sparse 5-25% cover (-1)		the presence of rare, threatened	l, or endangered spp
		Nearly absent <5% cover (0)			
		Absent (1) 6d. Microtopography.	Mudflat and	Open Water Class Quality Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 ac	res)
		0 Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88	
		O Coarse woody debris >15cm (6i	· —	High 4ha (9.88 acres) or more	
		O Standing dead >25cm (10in) dbl		ramby Cayor Saala	
		0 Amphibian breeding pools	<u> </u>	raphy Cover Scale Absent	
			1	Present very small amounts or if r	nore common
				of marginal quality	
			2	Present in moderate amounts, but	•
			3	quality or in small amounts of hi Present in moderate or greater an	
	Ī		3	and of highest quality	Tourito
34			-	<u> </u>	

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

Wetland 4 Michelle Kearns 11/20/2019

	Wildreite Rea	circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	NO	If yes, Category 3.
	Question 4. Significant bird habitat	NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	NO	If yes, Category 1.
	Question 6. Bogs	NO	If yes, Category 3.
	Question 7. Fens	NO	If yes, Category 3.
	Question 8a. Old Growth Forest	NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	NO	If yes, Category 3
	Question 11. Relict Wet Prairies	NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
J	Metric 2. Buffers and surrounding land use	3	
	Metric 3. Hydrology	20	
	Metric 4. Habitat	14	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-3	
	TOTAL SCORE	34	Category based on score breakpoints Category 2

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 X	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 overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	Wetland should be evaluated for possible Category 3 status	NO X	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 X	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?	Wetland is assigned to the appropriate category based on the scoring range	NO X	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?	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 moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not 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?	Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	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			
Choose one	Category 1	Category 2	Category 3
Category 1			

End of Ohio Rapid Assessment Method for Wetlands.

B.3 QHEI FORMS





Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 37

Stream & Location: Stre	am 1 / COH Marysville Conne	ector	_ RM: _	Date: 11/20/19
	Sc	corers Full Name & Affiliation:	J. Slater /	Stantec Consulting Services
River Code:	STORET #:	Lat./Long.:40 . 1794		2490 Office verified location
1] SUBSTRATE Check ON	LYTwo substrate TYPE BOXES;		ONE (<i>Or 2 &</i>	
BEST TYPES BLDR /SLABS [10] 10 10 10 10 10 10 10	or note every type present OTHER TYPES HARDPAN [4] DETRITUS [3] MUCK [2] SILT [2] ARTIFICIAL [0 (Score naturals ES: 4 or more [2] Sludge fro	POOL RIFFLE 40	SILT	QUALITY HEAVY [-2] MODERATE [-1] NORMAL [0] FREE [1] EXTENSIVE [-2] MODERATE [-1] NORMAL [0] NONE [1]
quality; 3 -Highest quality in mo	uality; 2-Moderate amounts, but noderate or greater amounts (e.g., value) I developed rootwad in deep / fas: POOLS > 70 TATION [1] ROOTWADS		of highest r, large l pools. [ERS [1] [TES [1] [AMOUNT Check ONE (Or 2 & average) EXTENSIVE >75% [11] MODERATE 25-75% [7] SPARSE 5-<25% [3] NEARLY ABSENT <5% [1] Cover Maximum 20 8
3] CHANNEL MORPHOL	OGY Check ONE in each catego	ory (Or 2 & average)		
	[3] RECOVERING	☐ HIGH [3] [4] ■ MODERATE [2]		Channel Maximum 20
4] BANK EROSION AND	O RIPARIAN ZONE Check O	NE in each category for <i>EACH BANK</i> (0	Or 2 per bank	: & average)
River right looking downstream REROSION NONE / LITTLE [3] MODERATE [2] HEAVY / SEVERE [1]	RIPARIAN WIDTH WIDE > 50m [4] MODERATE 10-50m [3] NARROW 5-10m [2] VERY NARROW < 5m [1]	FLOOD PLAIN QUAL FOREST, SWAMP [3] SHRUB OR OLD FIELD [2] RESIDENTIAL, PARK, NEW FIELD		CONSERVATION TILLAGE [1] URBAN OR INDUSTRIAL [0] MINING / CONSTRUCTION [0] the predominant land use(s) Om riparian. Riparian
Comments				Maximum 5
□ 0.7-<1m [4]	CIFFLE / RUN QUALITY CHANNEL WIDTH Check ONE (Or 2 & average) POOL WIDTH > RIFFLE WIDTH [2 POOL WIDTH = RIFFLE WIDTH [4	D VERY FAST [1] ■ INTERST	TIAL [-1] TENT [-2] 1]	Recreation Potential Primary Contact Secondary Contact (circle one and comment on back) Pool / Current Maximum 12
Indicate for function	al riffles; Best areas mus	st be large enough to support	a popula	tion _
of riffle-obligate spe RIFFLE DEPTH ☐ BEST AREAS > 10cm [2]	Cies: Check RUN DEPTH RIF MAXIMUM > 50cm [2] STAI MAXIMUM < 50cm [1] MOD	ONE (Or 2 & average). FLE / RUN SUBSTRATE RIF	FLE / RUI	N EMBEDDEDNESS ONE [2] OW [1] ODERATE [0] XTENSIVE [-1] Maximum 8
6] GRADIENT (12.6 ft/	mi) VERY LOW - LOW [2-4]	%POOL:(0	%GLIDE	E:(100) Gradient
DRAINAGE AREA	■ MODERATE [6-10]	2/2	%RIFFLE	8 1

SAMPLED REACH Check ALL that apply STAGE STAGE	IMPLED REACH Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc. Temp = 8.0 degrees C; pH = 7.8; conductivity = 1.56 micro hos/cm		≽ ш о	ream Drawing:	7	Nonon	- W. C.	mos flow	De Rold Storage Storag	In C. 1.
--	---	--	-------	---------------	---	-------	---	----------	--	----------



Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 41

Stream & Location: Stream	ım 2 / COH Marysville Connec	tor	RM:	Date: 11/20/19
	Sca	orers Full Name & Affiliation	. M. Kearns / St	antec Consulting Services
River Code:	STORET #:	<i>Lat./ Long.:</i> 40 . 195	<u> 9 /8 3. 2</u> 9	912 Office verified location
BEST TYPES □ BLDR /SLABS [10] □ BOULDER [9] □ COBBLE [8] □ GRAVEL [7] □ SAND [6] □ BEDROCK [5]	or note every type present	POOL RIFFLE X B TILLS [1] WETLANDS [0] X B HARDPAN [0] SANDSTONE [0] Ubstrates: ignore RIP/RAP [0]	SILT [erage) QUALITY HEAVY [-2] MODERATE [-1] NORMAL [0] FREE [1] MODERATE [-1] MODERATE [-1] NORMAL [0] NONE [1]
quality; 3 -Highest quality in mo	ality; 2-Moderate amounts, but no derate or greater amounts (e.g., voldeveloped rootwad in deep / fast POOLS > 70c ATION [1] ROOTWADS	· · · —	ts of highest er, large Challen Challe	AMOUNT eck ONE (Or 2 & average) EXTENSIVE >75% [11] MODERATE 25-75% [7] BPARSE 5-<25% [3] NEARLY ABSENT <5% [1] Cover Maximum 20 4
SINUOSITY DEVELO	3] RECOVERING [ATION STABILITY HIGH [3] MODERATE [3] 3] LOW [1]	2]	Channel Maximum 20 12
River right looking downstream EROSION NONE / LITTLE [3] MODERATE [2] HEAVY / SEVERE [1]	R RIPARIAN WIDTH □ WIDE > 50m [4] ■ MODERATE 10-50m [3] □ NARROW 5-10m [2] □ VERY NARROW < 5m [1]	RESIDENTIAL, PARK, NEW FIEL	LITY R CON UNCLUDED UNIN	NSERVATION TILLAGE [1] BAN OR INDUSTRIAL [0] ING / CONSTRUCTION [0] edominant land use(s)
☐ 0.7-<1m [4] ☐ F	FFLE / RUN QUALITY CHANNEL WIDTH Check ONE (Or 2 & average) OOL WIDTH > RIFFLE WIDTH [2] OOL WIDTH = RIFFLE WIDTH [1] OOL WIDTH < RIFFLE WIDTH [0]	☐ VERY FAST [1] ■ INTERS	 	Recreation Potential Primary Contact Gecondary Contact ircle one and comment on back) Pool / Current Maximum 12
of riffle-obligate special RIFFLE DEPTH BEST AREAS > 10cm [2] BEST AREAS 5-10cm [1] BEST AREAS < 5cm [metric=0] Comments	Cies: Check 0 RUN DEPTH RIFF] MAXIMUM > 50cm [2] □ STAB] MAXIMUM < 50cm [1]		FFLE / RUN E	NO RIFFLE [metric=0] EMBEDDEDNESS E [2]
6] GRADIENT (32.9 ft/n	ni)	%POOL: 60 1 %RUN: 0) %GLIDE:(4)%RIFFLE:((─ ─ 8

FJ MEASUREMENTS bankfull x depth 3.5ft x bankfull width 3 2ff floodprone x² width bankfull max. depth \bar{x} width 2 ft \bar{x} depth 0.5 ft max. depth entrench. ratio Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc. Legacy Tree: W/D ratio HARDENED / URBAN / DIRT&GRIME LOGGING / IRRIGATION / COOLING BMPs-CONSTRUCTION-SEDIMENT FALSE BANK / MANURE / LAGOON NATURAL / WETLAND / STAGNANT WWTP / CSO / NPDES / INDUSTRY ACID / MINE / QUARRY / FLOW ATMOSPHERE / DATA PAUCITY WASH H₂0 / TILE / H₂0 TABLE **BANK / EROSION / SURFACE** PARK / GOLF / LAWN / HOME **CONTAMINATED / LANDFILL** Adelsberger Road Circle some & COMMENT PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC / BOTH / NA FLOOD CONTROL / DRAINAGE MODIFIED / DIPPED OUT / NA MOVING-BEDLOAD-STABLE IMPOUNDED / DESICCATED YOUNG-SUCCESSION-OLD SPRAY / SNAG / REMOVED RELOCATED / CUTOFFS DI MAINTENANCE **ARMOURED / SLUMPS LEVEED / ONE SIDED** ISLANDS / SCOURED Temp = 7.9 degrees C; pH = 7.6; conductivity = 1.78 micro hos/cm INVASIVE MACROPHYTES ☐ EXCESS TURBIDITY
☐ DISCOLORATION
☐ FOAM / SCUM
☐ OIL SHEEN
☐ TRASH / LITTER
☐ NUISANCE ODOR
☐ SLUDGE DEPOSITS
☐ CSOS/SSOS/OUTFALLS **BIAESTHETICS** □ NUISANCE ALGAE POOL: □>100ft²□>3ft AREA DEPTH CJ RECREATION CH CH ☐ SECCHI DEPTH☐ ☐ HIGH ☐ UP ☐ NORMAL ☐ LOW ☐ DRY 1st -sample pass- 2nd --sample pass--□ > 70 cm/ CTB CLARITY Stream Drawing. STAGE ■ 20-<40 cm AJ SAMPLED REACH □ 40-70 cm Check ALL that apply < 20 cm ☐ 10%-<30% ☐ <10%- CLOSED ■ > 85%- OPEN CANOPY DISTANCE 55%-<85% 30%-<25% ☐ BOAT ■ WADE ☐ L. LINE ☐ OTHER 0.5 Km 0.15 Km 0.12 Km METHOD OTHER 0.2 Km meters

MARYSVILLE CONNECTOR PIPELINE PROJECT WETLAND AND WATERBODY DELINEATION REPORT

B.4 HHEI FORMS





Primary Headwater Habitat Evaluation Form

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HHEI Score (sum of metrics 1, 2, 3): SITE NAME/LOCATION COH Marysville Connector SITE NUMBER Stream 3 DRAINAGE AREA (mi²) 0.55 RIVER BASIN 144 LAT. 40.19628 LONG. -83.29725 RIVER CODE LENGTH OF STREAM REACH (ft) RIVER MILE DATE 11/20/19 **COMMENTS** intermittent, culverted SCORER M. Kearns NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY STREAM CHANNEL **MODIFICATIONS:** SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes HHEI (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. Metric PERCENT **PERCENT Points** BLDR SLABS [16 pts] SILT [3 pt] 0% 0% BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 0% 0% **Substrate** 0% BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] Max = 40100% 0% COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 0% 0% GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] 0% 0% SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) (A) Substrate Percentage 0.00% 100% A + BBldr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: 1 Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30> 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 25 20 COMMENTS **MAXIMUM POOL DEPTH (centimeters):** BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Width Max=30> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] \leq 1.0 m (<=3' 3") [5 pts] > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] 0.90 COMMENTS AVERAGE BANKFULL WIDTH (meters): This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆ RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) (Per Bank) R Wide >10m Mature Forest, Wetland Conservation Tillage Immature Forest, Shrub or Old Moderate 5-10m Urban or Industrial Field Open Pasture, Row Crop Narrow <5m Residential, Park, New Field Fenced Pasture None Mining or Construction COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 15 25 >3 0.5 STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also	be Completed):
QHEI PERFORMED? - Yes V No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: CWH Name: WILL Creek	Distance from Evaluated Stream Distance from Evaluated Stream
	Distance from Evaluated Stream2.00
	NTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Marysville	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Union Towns	ship / City:Millcreek Township
MISCELLANEOUS Base Flow Conditions? (Y/N): Y Date of last precipitation:	11/11/19 Quantity: 0.11
Photograph Information: upstream, downstream, substrates	
Elevated Turbidity? (Y/N): N Canopy (% open): 100	%
Were samples collected for water chemistry? (Y/N): Y (Note lat	o sample no. or id. and attach results) Lab Number:
	pH (S.U.) 6.80 Conductivity (µmhos/cm) 2,980
Is the sampling reach representative of the stream (Y/N) If not,	please explain:
Additional comments/description of pollution impacts:	
ID number. Include appropriate field data Fish Observed? (Y/N) N Voucher? (Y/N) Salamanders C	er collections optional. NOTE: all voucher samples must be labeled with the site a sheets from the Primary Headwater Habitat Assessment Manual) Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
V.	OF STREAM REACH (This <u>must</u> be completed): site evaluation and a narrative description of the stream's location
FLOW No Flow	Ag fuld
rfield old field	Jaggard Ag fuld



ChieFPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3):

SITE NAME/LOCATION COH Marysville Connector	
SITE NUMBER Stream 4 RIVER BASIN DRAINAGE AREA (mi²) 0	.53
LENGTH OF STREAM REACH (ft) 92 LAT. 40.19995 LONG83.30434 RIVER CODE RIVER MILE	
DATE 11/20/19 SCORER M. Kearns COMMENTS ephemeral	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instru	uctions
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERING RECENT OR NO RECOVERED RECOVERED RECOVERING RECENT OR NO RECOVERED RECOVERED RECOVERING RECENT OR NO RECOVERED	OVERY
1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.	HHEI
TYPE PERCENT TYPE PERCENT	Metric Points
BLDR SLABS [16 pts]	
BEDROCK [16 pt] 0% FINE DETRITUS [3 pts]	Substrat Max = 4
☐ COBBLE (65-256 mm) [12 pts] 0% ☐ CLAY or HARDPAN [0 pt] 100% ☐ GRAVEL (2-64 mm) [9 pts] 0% ☐ MUCK [0 pts] 0%	_
SAND (<2 mm) [6 pts]	1
Total of Percentages of 0.00% (A) Substrate Percentage 100% (B)	A + B
Bldr Slabs, Boulder, Cobble, Bedrock	
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of	Pool Dep
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts]	Max = 3
> 22.5 - 30 cm [30 pts] < 5 cm [5 pts]	4.5
> 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts]	15
COMMENTS MAXIMUM POOL DEPTH (centimeters): 8	
BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):	Bankful
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] ≤ 1.0 m (<=3' 3") [5 pts]	Width Max=30
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	
COMMENTS AVERAGE BANKFULL WIDTH (meters): 0.90	
	5
	5
This information must also be completed	5
This information <u>must</u> also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆	5
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆ RIPARIAN WIDTH FLOODPLAIN QUALITY LR (Per Bank) LR (Most Predominant per Bank) LR	5
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ RIPARIAN WIDTH FLOODPLAIN QUALITY L R (Per Bank) L R (Most Predominant per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage	5
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY NOTE: River Left (L) and Right (R) as looking downstream A RIPARIAN WIDTH L R (Per Bank) Wide >10m Mature Forest, Wetland Moderate 5-10m This information must also be completed RIPARIAN WIDTH FLOODPLAIN QUALITY L R (Most Predominant per Bank) Mature Forest, Wetland Tonservation Tillage Immature Forest, Shrub or Old Field Urban or Industrial	
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This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ RIPARIAN WIDTH FLOODPLAIN QUALITY Certain Flood Floodplain (Most Predominant per Bank) RIPARIAN WIDTH FLOODPLAIN QUALITY Floodplain Glober Floodplain (Most Predominant per Bank) RIPARIAN WIDTH FLOODPLAIN QUALITY Floodplain Glober Floodplain (Most Predominant per Bank) RIPARIAN WIDTH FLOODPLAIN QUALITY Floodplain Glober Floodplain (Most Predominant per Bank) Residentian Floodplain Glober Floodplain Glo	op -
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This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH FLOODPLAIN QUALITY L R (Per Bank) Wide >10m Mature Forest, Wetland Moderate 5-10m Moderate 5-10m Residential, Park, New Field None COMMENTS FLOW REGIME (At Time of Evaluation) SINUOSITY (Number of bends per 61 m (200 ft) of channel) None 1.0 Check ONLY one box): SINUOSITY (Number of bends per 61 m (200 ft) of channel) COMMENTS This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream A River Left (L) and Right (R) as looking downstream A RipARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream A RipARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream A RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream A RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream A RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream A RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream A RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream A RIPARIAN ZONE A Moderate 5-10m Residential, Park, New Field Open Pasture, Row Cro Mining or Construction Comments Moist Channel, isolated pools, no flow (Intermittent) Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) ROW REGIME (R) ROW REGIM	op -

	RMATION (This Information Must	· · · ·		
QHEI PERFORMED		(If Yes, Atta	ch Completed QHEI Form)	
DOWNSTREAM DE WWH Name:	ESIGNATED USE(S)		Distance from Evaluated Stream	
CWH Name:			Distance from Evaluated Stream	
EWH Name: Mill Creek			Distance from Evaluated Stream	2.00
MAPPING: ATTACH	I COPIES OF MAPS, INCLUDING TH	1E ENTIRE WATERSHED	AREA. CLEARLY MARK THE SITE	LOCATION
JSGS Quadrangle Name: Ma	ırysville	NRCS Soil Map P	rage: NRCS Soil Map Strea	am Order
County: Union		ownship / City:Millcre	ek Township	
MISCELLANEOUS				
Base Flow Conditions? (Y/N):_	Y Date of last precipitation:	11/11/19	Quantity: 0.11	
Photograph Information: ups	tream, downstream, substrates			
Elevated Turbidity? (Y/N):	Canopy (% open):	100%		
Were samples collected for wa	ater chemistry? (Y/N): Y (No	ote lab sample no. or id. a	and attach results) Lab Number:	
	Dissolved Oxygen (mg/l)	pH (S.U.)	6.60 Conductivity (µmhos/cm)	870
s the sampling reach represer	Y	f not, please explain:		
a me sampling reach represer	TRACTIVE OF THE SHEATH (T/IN)	i not, piease explain		
<u> </u>				
Additional comments/description	on of pollution impacts:			
Performed? (Y/N): N Fish Observed? (Y/N) Frogs or Tadpoles Observed? Comments Regarding Biology:	Voucher? (Y/N) N Salamande (Y/N) N Voucher? (Y/N) N		NOTE: all voucher samples must be mary Headwater Habitat Assessment Voucher? (Y/N) N Voucher? (Y/N) Voucher	Manual)
	NARRATIVE DESCRIPTION			dian.
	ks and other features of Interest for	site evaluation and a nam	f (This <u>must</u> be completed): ative description of the stream's loca	tion
	ks and other features of Interest for	site evaluation and a nam	ative description of the stream's loca	tion
	ks and other features of Interest for	site evaluation and a nam	ative description of the stream's loca	~~~
Include important landmark	ks and other features of Interest for	site evaluation and a nam	ative description of the stream's loca	~~~
	ks and other features of Interest for	y succession and a name of the succession of the	onal	~~~
Include important landmark	was and other features of Interest for the work of the	o flow	onal	~~~
Include important landmark	ks and other features of Interest for	o flow	onal	~~~
Include important landmark	was and other features of Interest for the work of the	o flow	onal	vetana

Appendix C PHOTOGRAPHS







Photo Location 1. View of cropland habitat. Photograph taken facing northeast.



Photo Location 2. View of cropland habitat. Photograph taken facing southeast.





Photo Location 3. View of cropland habitat. Photograph taken facing south.



Photo Location 4. View of maintained right-of-way and State Route 33. Photograph taken facing west.





Photo Location 5. View of Stream 1. Photograph taken facing upstream, northwest.



Photo Location 5. View of Stream 1. Photograph taken facing downstream, southeast.





Photo Location 5. View of Stream 1, typical substrates.



Photo Location 6. View of Wetland 1 (SP01). Photograph taken facing north.





Photo Location 6. View of Wetland 1 (SP01). Photograph taken facing east.



Photo Location 6. View of Wetland 1 (SP01). Photograph taken facing south.





Photo Location 6. View of Wetland 1 (SP01). Photograph taken facing west.



Photo Location 7. View of Wetland 1 (SP03). Photograph taken facing north.





Photo Location 7. View of Wetland 1 (SP03). Photograph taken facing east.



Photo Location 7. View of Wetland 1 (SP03). Photograph taken facing south.





Photo Location 7. View of Wetland 1 (SP03). Photograph taken facing west.



Photo Location 8. View of old field habitat and cropland habitat. Photograph taken facing northeast.





Photo Location 9. View of developed/urban habitat and maintained right-of-way. Photograph taken facing south.



Photo Location 10. View of maintained lawn habitat. Photograph taken facing east.





Photo Location 11. View of cropland habitat. Photograph taken facing east.



Photo Location 12. View of Stream 2. Photograph taken facing upstream, south.





Photo Location 12. View of Stream 2. Photograph taken facing downstream, north.



Photo Location 12. View of Stream 2, typical substrates.





Photo Location 13. View of Wetland 2. Photograph taken facing north.



Photo Location 13. View of Wetland 2. Photograph taken facing east.





Photo Location 13. View of Wetland 2. Photograph taken facing south.



Photo Location 13. View of Wetland 2. Photograph taken facing west.





Photo Location 14. View of Stream 3. Photograph taken facing upstream, south.



Photo Location 14. View of Stream 3. Photograph taken facing downstream, north.



Columbia Gas of Ohio Marysville Connector Pipeline Project Wetland and Waterbody Delineation Report



Photo Location 14. View of Stream 3, typical substrates.



Photo Location 15. View of old field habitat. Photograph taken facing east.





Photo Location 16. View of cropland habitat. Photograph taken facing northwest.



Photo Location 17. View of maintained right-of-way. Photograph taken facing southeast.





Photo Location 18. View of maintained lawn habitat. Photograph taken facing west.



Photo Location 19. View of Wetland 3. Photograph taken facing north.





Photo Location 19. View of Wetland 3. Photograph taken facing east.



Photo Location 19. View of Wetland 3. Photograph taken facing south.





Photo Location 19. View of Wetland 3. Photograph taken facing west.



Photo Location 20. View of Wetland 4. Photograph taken facing north.





Photo Location 20. View of Wetland 4. Photograph taken facing east.



Photo Location 20. View of Wetland 4. Photograph taken facing south.





Photo Location 20. View of Wetland 4. Photograph taken facing west.



Photo Location 21. View of early successional habitat and Stream 4. Photograph taken facing upstream, southwest.





Photo Location 21. View of Stream 4. Photograph taken facing downstream, northeast.



Photo Location 21. View of Stream 4, typical substrates.





Photo Location 22. View of maintained lawn habitat. Photograph taken facing northwest.

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

12/24/2019 9:49:20 AM

in

Case No(s). 19-2148-GA-BLN

Summary: Letter of Notification Amended Appendix C electronically filed by Cheryl A MacDonald on behalf of Columbia Gas of Ohio, Inc.