# Attachment C Wetland Delineation Report



September 30, 2022

Mr. Doug Tomsic Gas Major Projects - NiSource 4580 Bridgeway Avenue, Suite C Columbus, OH 43219

Re: Wetland Delineation Report Ford Street Pipeline Project

NiSource

Burns & McDonnell Project No.: 121558

Dear Mr. Tomsic,

Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) was retained by NiSource to provide a wetland delineation for the Ford Street Pipeline Project (Project) located in Maumee, Lucas County, Ohio (Figure 1, Appendix A). The purpose of the field work was to document conditions and confirm the presence or absence of the environmental features (wetlands, waterbodies, potential habitat for Threatened and Endangered species) identified in the environmental desktop study. The following sections provide information on the proposed Project and summarizes the completed wetland delineation.

# INTRODUCTION

The Project consists of the installation of approximately 3.7 miles of 30-inch diameter high pressure gas distribution pipeline to connect three stations (Panhandle, ANR, Ford Street) into main feeds with associated valve sites for the station feeds. Work will begin north of the intersection of Holland Road and Tomahawk Drive and end at Ford Street Station on Ford Street. Workspaces will include bore pits for the trenchless installation portions of the Project, soil stockpiling and equipment access for open trenching, and laydown/staging areas, as needed. All Project related activity will be contained within a preferred route and associated work areas, which can be seen on the Project Alignment and Workspaces Map (Figure 5, Appendix A). The wetland delineation was conducted along multiple routes and will be referred to throughout the report as the Survey Area. The Survey Area encompasses approximately 156 acres.

## **METHODS**

The following discussions summarize the methods used for the review of existing data and the wetland delineation.



## **Existing Data Review**

Burns & McDonnell reviewed available background information for the Project prior to conducting a site visit. This available background information included the 2019 U.S. Geological Survey (USGS) 7.5 minute topographic maps (Maumee, Ohio quadrangle), U.S. Fish & Wildlife Service (USFWS) National Wetland Inventory (NWI) maps, National Agriculture Imagery Program (NAIP) aerial photography (2022), USGS National Hydrography Dataset (NHD), Federal Emergency Management Agency (FEMA) 2020 National Flood Hazard Layer (NHFL), and U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) 2022 Soil Survey Geographic (SSURGO) digital data for Lucas County, Ohio. Figures A-2 and A-3 in Appendix A depict this data.

Wetland presence based only on NWI maps or other background information cannot be assumed to be an accurate assessment of the location and extent of jurisdictional wetlands. Wetland identification criteria differ between the USFWS and the USACE. As a result, wetlands shown on a NWI map may not be under the jurisdiction of the USACE, and all USACE-jurisdictional wetlands are not always included on NWI maps. Therefore, a field visit was conducted to identify any wetlands or other waterbodies that may be present.

## **Wetland Delineation**

A Burns & McDonnell wetland scientist completed a wetland delineation of the Survey Area on May 27, June 25, October 22, 2020, May 12, September 2, 2021, and September 8, 2022. The Survey Area included the areas where proposed Project activities would occur. The delineation was completed in accordance with the 1987 *Corps of Engineers Wetlands Delineation Manual* (1987 Manual) and the 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral Northeast Region – Version 2.0* (Regional Supplement). Sample plots were established at multiple locations and Wetland Determination Data Forms from the Regional Supplement were completed to characterize the Survey Area (Appendix B). Vegetation, soil conditions, and hydrologic indicators were recorded at each of the sample plots. Locations of sample plots and other identified features were surveyed using a sub-meter-accurate global positioning system (GPS) unit. Photographs were taken onsite and are included in Appendix C (Photographs C-1 through C-32).

Each delineated wetland was assigned a category using the Ohio Rapid Assessment Method (ORAM) for Wetland Categorization. According to Ohio Administrative Code, Category 1 wetlands have minimal habitat and minimal hydrological and recreational functions. These wetlands do not provide critical habitat for threatened or endangered species. Category 2 wetlands have moderate wildlife habitat or hydrological or recreational functions. Category 2 wetlands are dominated by native vegetation but generally do not contain threatened or endangered species habitat. Category 3 wetlands have superior habitat or hydrological or



recreational functions. These wetlands often provide habitat for threatened or endangered species.

The State of Ohio affords different levels of protection to wetlands based on wetland quality. The Quantitative Rating pages from the ORAM 10-page form for Wetland Categorization was completed for each delineated wetland, and a preliminary ORAM score for each wetland was determined. A copy of the Quantitative Rating pages for each delineated wetland is located in Appendix D.

#### **Stream Evaluation**

An assessment of habitat in flowing waters was performed for streams located within the Survey Area using the Ohio Environmental Protection Agency (Ohio EPA) Headwater Habitat Evaluation Index (HHEI). Copies of the HHEI Field Sheets are included in Appendix E.

# **Protected Species**

In February 2022, project initial review request letters were submitted to the USFWS and the Ohio Department of Natural Resources (ODNR) to obtain information on federal and state protected species that may be present within or near the Survey Area. Agency response letters were received in March 2022 and are included as attachments in Appendix F. Listed species, designation of their listing, habitat observed, avoidance dates (if applicable), agency comments and potential impact calls are identified in Table 3. If available, habitat types for the respective species are also listed in Table 3.

A desktop and onsite habitat assessment was performed to identify potential habitat of federally and state-protected species within the Survey Area. A bat roost tree survey to identify potential roost habitat trees (i.e., trees larger than 3 inches in diameter breast height [dbh]) that also displayed characteristics such as loose bark, hollows, sloughing, crevasses within forested habitat of the Survey Area was conducted. The Survey Area was also assessed for the presence of potential habitat that could support other listed species.

#### **RESULTS**

The following sections describe the results of the existing data review and the completed wetland delineation.

### **Existing Data Review**

The existing USGS topographic maps were reviewed to familiarize Burns & McDonnell wetland personnel with the topography and potential locations of wetlands and other waterbodies (Figure 2, Appendix A). The USGS topographic maps indicate the Survey Area crosses mostly flat and built-up areas. USFWS NWI data depicts one wetland located within the Survey Area near the



intersection of Mingo Drive and Illinois Avenue. This mapped NWI wetland is labeled as freshwater pond (PUBGx) and was identified as an open water pond during the wetland delineation survey. The USGS NHD depicts one named ditch located within the Survey Area, Graham Ditch. Graham Ditch appears to have been relocated north from its original channel location shown on Figure 2 in Appendix A. Graham ditch is culverted, flows through the northern portion of the Survey Area, and sections were identified as intermittent streams S-1 through S-4 during the wetland delineation survey. One FEMA floodplain is depicted along sections of Graham Ditch along Ford Street and the northern portion of the named ditch (Figure 2, Appendix A). Aerial photography from 2022 indicates the Survey Area consists of urbanized areas (Figure 4, Appendix A).

The NRCS SSURGO digital data indicates that portions of six soil map units are located in the Survey Area. Two of the six soils are included on local and national hydric soil lists (Figure 3, Appendix A). Soils identified within the Survey Area are listed below and hydric soils are also indicated:

- Colwood loam (Co)\*
- Del Rey loam, 0 to 3 percent slopes (DdA)
- Lenawee silty clay loam, 0 to 1 percent slopes (Lf)
- Toledo silty clay, 0 to 1 percent slopes (To)\*
- Toledo-Urban land complex (Ts)
- Ur (Urban Land)
- \*Hydric

#### **Wetland Delineation Field Survey**

On May 27, June 25, October 22, 2020, May 12, September 2, 2021, and September 8, 2022 a two-person team comprised of a wetland scientist paired with a GPS specialist, all with Burns & McDonnell, conducted a wetland delineation of the Survey Area. The GPS specialist recorded the location and extent of features identified within the Survey Area. The land cover and delineated wetlands and other waterbodies from the site visits are discussed in detail below.

Vegetation. The Survey Area was largely maintained lawn and grassland areas with smaller patches of upland forested habitat and active agriculture were present. Typical vegetation in the upland forested habitat consisted of black locust (Robinia pseudoacacia), silver maple (Acer saccharinum), shagbark hickory (Carya ovata), red maple (Acer rubrum), European buckthorn (Rhamnus cathartica), and Virginia creeper (Parthenocissus quinquefolia). Typical vegetation in the upland grassland and maintained lawn habitat included white clover (Trifolium repens), tall fescue (Schedonorus arundinaceus), yellow sweet clover (Melilotus officinalis), dandelion (Taraxacum officinale), honey locust (Gleditsia triacanthos), red maple, blue spruce (Picea



*pungens*) and white pine (*Pinus strobus*). Typical vegetation within the active agriculture habitat included corn (*Zea mays*) and soybean (*Glycine max*). General landscape photos of representative upland areas are included in Appendix C.

#### **Delineated Areas**

Nine wetlands and four streams were identified during the wetland delineation effort. The wetlands and streams are described by type below, and their locations are shown on Figure 4 in Appendix A.

#### Wetlands

Table 1 provides the size and type of each wetland delineated within the Survey Area.

**Table 1: Type and Size of Wetland Delineated** 

Wetland Number	Wetland Type <sup>a</sup>	Area of Wetland Delineated in Survey Area (acre)	ORAM Score	ORAM Category
W-1	PEM	0.01	6	1
W-2	PEM	0.39	27.5	1
	PFO	0.30		
W-3	PFO	2.10	40	2
W-4	PEM	0.16	22.5	1
	PFO	0.07		
W-5	PEM	0.06	11	1
W-6	PEM	0.08	11	1
W-7	PEM	0.18	7	1
	PFO	0.02		
W-8	PEM	0.25	24	1
	PFO	0.10		
W O	PEM	0.50	32.5	2
W-9	PFO	0.42		
	Total:	4. 64		

<sup>(</sup>a) Symbols for wetland type: PEM = palustrine emergent wetland, PFO = palustrine forested wetland



Wetland (W)-1. W-1 is a PEM wetland delineated within the Survey Area, totaling 0.01 acre (Photograph C-1). Dominant vegetation within the PEM wetland included narrowleaf cattail (*Typha angustifolia*). Observed indicators of wetland hydrology included saturation and a positive FAC-neutral test. Hydric soil was indicated by redox dark surface (F6). This wetland received a preliminary ORAM Category 1 score.

Wetland (W)-2. W-2 is a PEM/PFO wetland complex delineated within the Survey Area, totaling 0.69 acre (PEM 0.39 acre, PFO 0.30 acre) (Photograph C-3 and C-4). Dominant vegetation within the PEM portion of the wetland included cottongrass bulrush (*Scirpus cyperinus*), Dudley's rush (*Juncus dudleyi*), and devil's-pitchfork (*Bidens frondosa*). Dominant vegetation within the PFO portion of the wetland included silver maple, green ash, and poison ivy (*Toxicodendron radicans*). Observed indicators of wetland hydrology included water marks, sediment deposits, sparsely vegetated concave surface, surface soil cracks, crayfish burrows, saturation visible on aerial imagery, geomorphic position, and a positive FAC-neutral test. Hydric soil was indicated by redox dark surface (F6). This wetland received a preliminary ORAM Category 1 score.

Wetland (W)-3. W-3 is a PFO wetland delineated within the Survey Area, totaling 2.10 acre (Photograph C-6). Dominant vegetation within the PFO wetland eastern cottonwood (*Populus deltoides*), silver maple, green ash (*Fraxinus pennsylvanica*), and riverbank grape (*Vitis riparia*). Observed indicators of wetland hydrology included water marks, sediment deposits, sparsely vegetated concave surface, surface soil cracks, geomorphic position, and a positive FAC-neutral test. Hydric soil was indicated by redox dark surface (F6). This wetland received a preliminary ORAM Category 2 score.

Wetland (W)-4. W-4 is a PEM/PFO wetland complex delineated within the Survey Area, totaling 0.23 acre (PEM 0.16 acre, PFO 0.07 acre) (Photograph C-7 and C-8). Dominant vegetation within the PEM portion of the wetland included green ash, common fox sedge (Carex vulpinoidea) and swamp milkweed (Asclepias incarnata). Dominant vegetation within the PFO portion of the wetland included silver maple, eastern cottonwood, green ash, and poison ivy. Observed indicators of wetland hydrology included water marks, sediment deposits, sparsely vegetated concave surface, surface soil cracks, crayfish burrows, saturation visible on aerial imagery, geomorphic position, and a positive FAC-neutral test. Hydric soil was indicated by redox dark surface (F6). This wetland received a preliminary ORAM Category 1 score.

Wetland (W)-5. W-5 is a PEM wetland delineated within the Survey Area, totaling 0.06 acre (Photograph C-9). Dominant vegetation within the PEM wetland included swamp milkweed. Observed indicators of wetland hydrology included sediment deposits, sparsely vegetated concave surface, drainage patterns, crayfish burrows, saturation visible on aerial imagery, and a



positive FAC-neutral test. Hydric soil was indicated by redox dark surface (F6). This wetland received a preliminary ORAM Category 1 score.

Wetland (W)-6. W-6 is a PEM wetland delineated within the Survey Area, totaling 0.08 acre (Photograph C-13). Dominant vegetation within the PEM wetland included devil's pitchfork and dark-green bulrush (*Scirpus atrovirens*). Observed indicators of wetland hydrology included sediment deposits, sparsely vegetated concave surface, drainage patterns, crayfish burrows, saturation visible on aerial imagery, and a positive FAC-neutral test. Hydric soil was indicated by redox dark surface (F6). This wetland received a preliminary ORAM Category 1 score.

Wetland (W)-7. W-7 is a PEM/PFO wetland complex delineated within the Survey Area, totaling 0.20 acre (PEM 0.18 acre, PFO 0.02 acre) (Photograph C-14). Dominant vegetation within the PEM wetland included reed canary grass (*Phalaris arundinacea*). Dominant vegetation within the PFO portion of the wetland included silver maple, eastern cottonwood, green ash, and poison ivy. Observed indicators of wetland hydrology included drainage patterns, crayfish burrows, saturation visible on aerial imagery, and a positive FAC-neutral test. Hydric soil was indicated by redox dark surface (F6). This wetland received a preliminary ORAM Category 1 score.

Wetland (W)-8. W-8 is a PEM/PFO wetland complex delineated within the Survey Area, totaling 0.35 acre (PEM 0.25 acre, PFO 0.10 acre) (Photograph C-16 and C-17). Dominant vegetation within the PEM portion of the wetland included green ash and cottongrass bulrush. Dominant vegetation within the PFO portion of the wetland included silver maple and green ash. Observed indicators of wetland hydrology included water marks, sediment deposits, sparsely vegetated concave surface, water-stained leaves, surface soil cracks, crayfish burrows, saturation visible on aerial imagery, geomorphic position, and a positive FAC-neutral test. Hydric soil was indicated by redox dark surface (F6). This wetland received a preliminary ORAM Category 1 score.

Wetland (W)-9. W-9 is a PEM/PFO wetland complex delineated within the Survey Area, totaling 0.92 acre (PEM 0.50 acre, PFO 0.42 acre) (Photograph C-19 and C-20). Dominant vegetation within the PEM portion of the wetland included green ash and reed canary grass. Dominant vegetation within the PFO portion of the wetland included reed canary grass, green ash, black willow, eastern cottonwood, and sugar maple. Observed indicators of wetland hydrology included saturation visible on aerial imagery, geomorphic position, and a positive FAC-neutral test. Hydric soil was indicated by redox dark surface (F6). This wetland received a preliminary ORAM Category 2 score.

#### Streams

Table 2 provides the type and size of each stream delineated within the Survey Area. All delineated streams within the Survey Area were classified as intermittent streams.



**Table 2: Type and Size of Streams Delineated** 

Stream Number	Stream Type	Length of Delineated Stream (feet)	Width of Stream Delineated (feet)	HHEI Score
S-1	Intermittent	361	8	40
S-2	Intermittent	967	6	40
S-3	Intermittent	622	4	30
S-4	Intermittent	621	4	30
	Total:	2,571	Avg: 5.5	

Stream (S)-1. S-1 is an intermittent stream within the Survey Area (Photograph C-22). A total of 361 feet of S-1 was delineated within the Survey Area. S-1 is associated with Graham Ditch, flows towards the north under West Dussel Drive where it continues to flow north and east and eventually outside of the Survey Area. Within the Survey Area, S-1 was approximately 8 feet wide, had a bank height of 1 foot, and a depth to ordinary high-water mark (OHWM) of 8 inches. Maintained lawn and grassland surrounded the stream.

Stream (S)-2. S-2 is an intermittent stream within the Survey Area (Photograph C-23). S-2 is associated with Graham Ditch and is hydrologically connected to S-1. A total of 967 feet of S-2 was delineated within the Survey Area. Within the Survey Area, S-2 was approximately 6 feet wide, had a bank height of 1 foot, and a depth to OHWM of 4 inches. Maintained lawn and grassland surrounded the stream.

Stream (S)-3. S-3 is an intermittent stream within the Survey Area (Photograph C-24). S-3 is associated with Graham Ditch and is hydrologically connected to S-2. A total of 622 feet of S-3 was delineated within the Survey Area. Within the Survey Area, S-3 was approximately 4 feet wide, had a bank height of 1 foot, and a depth to OHWM of 2 inches. Maintained lawn and grassland surrounded the stream.

Stream (S)-4. S-4 is an intermittent stream within the Survey Area (Photograph C-25). S-4 is associated with Graham Ditch and is hydrologically connected to S-3. A total of 621 feet of S-4 was delineated within the Survey Area. Within the Survey Area, S-4 was approximately 4 feet wide, had a bank height of 1 foot, and a depth to OHWM of 8 inches. Maintained lawn and grassland surrounded the stream.



## Additional Features

Three open water features were delineated within the central and southern portions of the Survey Area (Photographs C-26-28). The eastern boundary of an open water pond was delineated near the intersection of Illinois Avenue and Mingo Drive, a retention pond was delineated along the east side of Mingo Drive and north of the railroad, and an open water pond was delineation along the west side of Mingo Drive and north of the railroad (Figure 4, Appendix A). These features appear to be manmade, did not contain any wetland vegetation at the time of the survey and were surrounded by upland-maintained lawn habitat. Two of the ponds have fountain features in the center. Using professional judgement, these feature most likely do not connect to a Water of the United States (WOTUS), are not considered to be jurisdictional, and are not wetlands.

# **Protected Species**

Multiple potential roost trees were identified within the forested portions of the Survey Area. These trees had characteristics suitable for roosting such as cracks, crevices, and/or exfoliating bark. Although a species-specific survey was not conducted, no bats were observed while onsite.

The USFWS response letter (Appendix F) lists the federally endangered Indiana bat and federally threatened northern long-eared bat as occurring through the entire state of Ohio. Seasonal tree clearing is recommended during the approved timeframe of October 1<sup>st</sup> through March 31<sup>st</sup> to avoid adverse effects to the Indiana bat and northern long-eared bat. If seasonal tree clearing is not possible, a summer presence/absence survey may be conducted for Indiana bats. The USFWS states that due to the project type, size and location they do no anticipate any adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical habitat.

The ODNR Division of Wildlife (DOW) states that the Indiana bat (state and federally endangered), northern long-eared bat (state endangered and federally threatened), little brown bat (state endangered), and tricolored bat (state endangered) as occurring through the entire state of Ohio. The DOW recommends tree clearing occur between October 1<sup>st</sup> and March 31<sup>st</sup> to avoid impacts to these species. If trees are present and must be cleared during summer months, the DOW recommends a mist net survey or acoustic survey be conducted. The DOW also recommends a desktop habitat assessment be conducted, followed by a field assessment if needed, to determine if potential hibernaculum is present within the Project.

Burns & McDonnell performed a desktop review for potential hibernacula within the vicinity of the Project as a result of comments from the ODNR relating to state and federally listed bat species. The ODNR Division of Geological Survey Karst and Mine maps of Ohio did not identify any karst features or mines within the Project. No karst features are located near the



Project. The closest mine is a surface mine located approximately 0.50-mile northeast of the Project. Any tree clearing activities should occur during the approved timeframe of October 1<sup>st</sup> through March 31<sup>st</sup>.

Potential suitable habitat for the Blanding's turtle was also noted within the swampy portion of W-3, however, no impacts are proposed to that portion of this wetland. Suitable other listed species was not identified within the Survey Area.

The ODNR response letter (Appendix F) Natural Heritage Database lists the following sites: Maumee State Scenic River, Fort Meigs State Memorial, Fallen Timbers Battlefield and Side Cut Metropark within a one-mile radius. None of these sites are located within the Project or Survey Area and impacts are not anticipated. Please refer to Table 3 below for information on other listed species.



Table 3: Threatened and Endangered Species with Potential to be within the Survey Area

Species	Status <sup>a</sup>	Typical Habitat	Potential Habitat	Agency Comment	Avoidance	Potential
			Observed		Dates	Impact
Amphibian						
Blue-Spotted	SE	Wet, damp areas,	No, sandy soils not	Due to location, type of	N/A	No, habitat
Salamander		deciduous forests,	present.	habitat within project area		not present.
(Ambystoma		swampy woodlands, and		and type of work proposed,		
laterale)		hardwood forests with		Project is not likely to		
		sandy soils.		impact this species.		
Spotted Turtle	ST	Prefers fens, bogs,	No. Although streams,	Due to location, type of	N/A	No, habitat
(Clemmys		marshes, but is also	ponds and wet woods	habitat within project area		not
guttata)		known to inhabit wet	are located within	and type of work proposed,		observed.
		prairies, wet meadows,	Survey Area, no	Project is not likely to		
		pond edges, wet woods,	emergent vegetation	impact this species.		
		and shallow sluggish	surrounds ponds,			
		waters of small streams	streams are not			
		and ditches. Wetland	sluggish and are			
		requirements include	located in extremely			
		soft substrate, aquatic or	urbanized areas and			
		emergent vegetation,	wet woods do no			
		and at least a partial	contain any open			
		open canopy.	canopy areas.			



Species	Status <sup>a</sup>	Typical Habitat	Potential Habitat Observed	<b>Agency Comment</b>	Avoidance Dates	Potential
Blanding's Turtle (Emydoidea blandingii)	ST	Inhabits marshes, ponds lakes, streams with slow moving water, wet meadows, and swampy forests. Variety of wetland habitats, with a preference for shallow, clear, standing water with abundant aquatic vegetation. This species also requires upland habitat, relying on open sandy areas covered in grasses or shrubs for nesting.	Yes, PFO W-3 appears to contain an area that would be seasonally inundated. Although streams and ponds are located within Survey Area, no emergent vegetation surrounds ponds, and streams do not contain slow moving water and are are located in extremely urbanized areas. No upland sandy areas.	Due to location, type of habitat within project area and type of work proposed, Project is not likely to impact this species.	N/A	Impact No, no proposed impacts to swampy portion of W-3 and no habitat identified for resources.
Fish  Lake Sturgeon (Acipenser fulvescens)	SE	Sand or gravel habitat on the bottom of a riverbed or lake.	No, no perennial streams present and no fish noted in streams	If no in-water work is proposed in a perennial stream, this project is not	No in-water work in perennial	No, habitat not present.
			within Survey Area.	likely to impact these or other aquatic species.	streams from March 15 – June 30	
Cisco (Coregonus artedi)	SE	Pelagic, cold-water Great Lakes and inland lake environments.	No, no perennial streams present and no fish noted in streams within Survey Area.	If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.	No in-water work in perennial streams from March 15 – June 30.	No, habitat not present.



Species	Statusa	Typical Habitat	Potential Habitat Observed	<b>Agency Comment</b>	Avoidance Dates	Potential Impact
Western Banded Killfish (Fundulus diaphanous menona)	SE	Areas of abundant rooted aquatic vegetation, clear waters, and substrates of clean sand or organic debris free of silt.	No, no perennial streams present and no fish noted in streams within Survey Area.	If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.	No in-water work in perennial streams from March 15 – June 30	No, habitat not present.
Channel Darter (Percina copeland)	ST	Rivers and large creeks in areas of moderate current over sand and gravel. Also reported to have been in coarsesand, fine-gravel beach, and sandbar habitats.	No, no perennial streams present and no fish noted in streams within Survey Area.	If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.	No in-water work in perennial streams from March 15 – June 30	No, habitat not present.
American Eel (Anguilla rostrata)	ST	Multiple habitat requirements. Utilizes open ocean, large coastal tributaries, small freshwater streams, lakes, and ponds.	No, no perennial streams present and no fish noted in streams within Survey Area.	If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.	No in-water work in perennial streams from March 15 – June 30	No, habitat not present.
Greater Redhorse (Moxostoma valenciennesi)	ST	Medium to small rivers and lakes.	No, no perennial streams present and no fish noted in streams within Survey Area.	If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.	No in-water work in perennial streams from March 15 – June 30.	No, habitat not present.



Species	Status <sup>a</sup>	Typical Habitat	Potential Habitat Observed	Agency Comment	Avoidance Dates	Potential Impact
Invertebrate						
Rayed Bean (Villosa fabalis)	SE, FE	Smaller, headwater creeks, but sometimes found in large rivers and wave-washed areas of glacial lakes. Prefers gravel or sand substrates, and often found in and around roots of aquatic vegetation.	No, no perennial streams present and no mussels noted in streams within Survey Area. Several intermittent streams were identified within the Project Survey Area and all are located within urban settings with lower quality habitat. No mussel shells were present.	Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.	N/A	No, habitat not present.
Snuffbox (Epioblasma triquetra)	FE	Small to medium sized streams, inhabiting areas with swift current. Also found along Lake Erie and some large rivers.	No, no perennial streams present and no mussels noted in streams within Survey Area. No mussel shells were present.	Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.	N/A	No, habitat not present.
Eastern Pondmussel ( <i>Ligumia</i> nasuta)	SE	Lakes and ponds with sand to mud substrates. Occasionally found in slackwater areas of canals, rivers, and streams.	No, no perennial streams present and no mussels noted in streams within Survey Area. No mussel shells were present.	Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.	N/A	No, habitat not present.



Species	Status <sup>a</sup>	Typical Habitat	Potential Habitat	<b>Agency Comment</b>	Avoidance	Potential
			Observed		Dates	Impact
Black Sandshell ( <i>Ligumia recta</i> )	ST	Rivers with strong currents and lakes with a firm gravel or sand substrate.	No, no perennial streams present and no mussels noted in streams within Survey Area. No mussel shells were present.	Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.	N/A	No, habitat not present.
Threehorn Wartyback (Obliquaria reflexa)	ST	Large rivers where there is moderately strong current, and a stable substrate composed of gravel, sand, and mud. Also occurs in many reservoirs and in shallow, sand- and mudbottom river embayments with little or no current.	No, no perennial streams present and no mussels noted in stream No mussel shells were present.s within Survey Area.	Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.	N/A	No, habitat not present.
Fawnsfoot (Truncilla donaciformis)	ST	Large rivers.	No, no perennial streams present and no mussels noted in streams within Survey Area. No mussel shells were present.	Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.	N/A	No, habitat not present.



Species	Status <sup>a</sup>	Typical Habitat	Potential Habitat	Agency Comment	Avoidance	Potential
			Observed		Dates	Impact
Pondhorn (Uniomerus tetralasmus)	ST	Ponds, small creeks, and headwaters of larger streams in mud or sand.	No, no perennial streams present and no mussels noted in streams within Survey Area. No mussel shells were present.	Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.	N/A	No, habitat not present.
Mammal						
Indiana Bat (Myotis sodalis)	FE, SE	Winter hibernacula includes caves or abandoned mines. Summer roosting habitat includes wooded areas containing dead or dying trees or living trees that have cracks, crevices, and/or exfoliating bark and a diameter-at-breast-height (dbh) of 5 inches or greater. Tend to forage within forest or along forest edges.	Yes, potential habitat trees observed within portions of forested habitat in southern portion of Survey Area. No potential hibernaculum present within Survey Area.	If trees are present within project area and must be cut, DOW recommends tree clearing from Oct 1 – March 31. If trees must be cut during summer months, DOW recommends a mist net or acoustic survey be conducted. DOW also recommends a desktop habitat assessment be conducted for potential hibernaculum.	Tree clearing avoidance recommended from April 1 – September 30.	Yes, potential impact to habitat. No impact to species, tree clearing activities anticipated to occur between Oct 1 – March 31.



Species	Status <sup>a</sup>	Typical Habitat	Potential Habitat	Agency Comment	Avoidance	Potential
			Observed		Dates	Impact
Northern Long-	FT, SE	Winter hibernacula	Yes, potential habitat	If trees are present within	Tree clearing	Yes,
eared Bat		includes caves or	trees observed within	project area and must be	avoidance	potential
(Myotis		abandoned mines.	portions of forested	cut, DOW recommends tree	recommended	impact to
septentrionalis)		Summer roosting habitat	habitat in southern	clearing from Oct 1 –	from April 1 –	habitat. No
		includes wooded areas	portion of Survey	March 31. If trees must be	September 30.	impact to
		containing dead or dying	Area. No potential	cut during summer months,		species,
		trees or living trees that	hibernaculum present	DOW recommends a mist		tree
		have cracks, crevices,	within Survey Area.	net or acoustic survey be		clearing
		and/or exfoliating bark		conducted. DOW also		activities
		and a dbh of 3 inches or		recommends a desktop		anticipated
		greater. Tend to forage		habitat assessment be		to occur
		in forests or along forest		conducted for potential		between
		edges.		hibernaculum.		Oct 1 –
						March 31.
Little brown bat	SE	Winter hibernacula	Yes, potential habitat	If trees are present within	Tree clearing	Yes,
(Myotis		includes caves or	trees observed within	project area and must be	avoidance	potential
lucifugus)		abandoned mines.	portions of forested	cut, DOW recommends tree	recommended	impact to
		Summer roosting habitat	habitat in southern	clearing from Oct 1 –	from April 1 –	habitat. No
		includes wooded areas	portion of Survey	March 31. If trees must be	September 30.	impact to
		containing dead or dying	Area. No potential	cut during summer months,		species,
		trees or living trees that	hibernaculum present	DOW recommends a mist		tree
		have cracks, crevices,	within Survey Area.	net or acoustic survey be		clearing
		and/or exfoliating bark		conducted. DOW also		activities
		and a dbh of 3 inches or		recommends a desktop		anticipated
		greater. Tend to forage		habitat assessment be		to occur
		in forests or along forest		conducted for potential		between
		edges.		hibernaculum.		Oct 1 –
						March 31.



Species	Statusa	Typical Habitat	Potential Habitat Observed	Agency Comment	Avoidance Dates	Potential Impact
Tricolored bat (Perimyotis subflavus)	SE	Winter hibernacula includes caves or abandoned mines. Summer roosting habitat includes wooded areas containing dead or dying trees or living trees that have cracks, crevices, and/or exfoliating bark and a dbh of 3 inches or greater. Tend to forage in forests or along forest edges.	Yes, potential habitat trees observed within portions of forested habitat in southern portion of Survey Area. No potential hibernaculum present within Survey Area.	If trees are present within project area and must be cut, DOW recommends tree clearing from Oct 1 – March 31. If trees must be cut during summer months, DOW recommends a mist net or acoustic survey be conducted. DOW also recommends a desktop habitat assessment be conducted for potential hibernaculum.	Tree clearing avoidance recommended from April 1 – September 30.	Yes, potential impact to habitat. No impact to species, tree clearing activities anticipated to occur between Oct 1 – March 31.
Plant						waten 31.
Eastern Prairie Fringed Orchid (Platanthera leucophaea)	FT	Variety of habitats from mesic prairie to sedge meadows, marsh edges, or other wetlands.  Prefers full sun and little or no woody encroachment.	No	N/A	N/A	No, habitat not present.



Species	Status <sup>a</sup>	Typical Habitat	Potential Habitat Observed	<b>Agency Comment</b>	Avoidance Dates	Potential Impact
Reptile						
Kirtland's Snake (Clonophis kirtlandii)	ST	Prefers wet fields and meadows. Requires moist-soil environments to survive and is always found in close proximity to a permanent or seasonal water source, including wetlands, streams, reservoirs, lakes, or ponds.	No	Due to location, type of habitat within project area and type of work proposed, Project is not likely to impact this species.	N/A	No, habitat not present.
Bird		•				
Piping Plover (Charadrius melodus)	FE	Wide, flat, open, sandy beaches with very little grass or other vegetation. Nesting territories often include small creeks or wetlands.	No	N/A	N/A	No, habitat not present.
Red Knot (Calidris canutus rufa)	FT	Coastal habitats and the arctic tundra ecosystem for breeding. The red knot is a highly migratory bird.	No	N/A	N/A	No, habitat not present.



Species	Status <sup>a</sup>	Typical Habitat	Potential Habitat Observed	Agency Comment	Avoidance Dates	Potential Impact
American Bittern (Botaurus lentiginosus)	SE	Nesting bitterns prefer large undisturbed wetlands that have scattered small pools amongst dense vegetation. The occasionally occupy bogs, large wet meadows and dense shrubby swamps.	No	If this type of habitat will not be impacted, this project is not likely to impact this species.	If this type of habitat will be impacted, construction should be avoided in this habitat during specie's nesting period from May 1 – July 31.	No, habitat not present.
Black Tern (Childonias niger)	SE	Prefers large undisturbed inland marshes with fairly dense vegetation and pockets of open water. They nest in various kinds of marsh vegetation but cattail marshes are generally favored.	No	If this type of habitat will not be impacted, this project is not likely to impact this species.	If this type of habitat will be impacted, construction should be avoided in this habitat during specie's nesting period from April 1 – June 30.	No, habitat not present.



Species	Status <sup>a</sup>	Typical Habitat	Potential Habitat	Agency Comment	Avoidance	Potential
			Observed		Dates	Impact
Lark Sparrow	SE	Nests in grassland	No	If this type of habitat will	If this type of	No, habitat
(Chondestes		habitats with scattered		not be impacted, this project	habitat will be	not present.
grammacus)		shrub layer, disturbed		is not likely to impact this	impacted,	
		open areas as well as		species.	construction	
		patches of bare soil.			should be	
		Summer residents			avoided in this	
		usually migrate out of			habitat during	
		Ohio shortly after young			specie's	
		fledge.			nesting period	
					from May 1 –	
					July 31.	
Northern Harrier	SE	Nesters much rarer,	No	If this type of habitat will	If this type of	No, habitat
(Circus		although they		not be impacted, this project	habitat will be	not present.
hudsonius)		occasionally breed in		is not likely to impact this	impacted,	
		large marshes and		species.	construction	
		grasslands. Hunt over			should be	
		grasslands.			avoided in this	
					habitat during	
					specie's	
					nesting period	
					from April 15	
					– July 31.	



Species	Status <sup>a</sup>	Typical Habitat	Potential Habitat	Agency Comment	Avoidance	Potential
Conserve English	CE	Nacta in union d	Observed	If this torrest final item will	Dates	Impact
Snowy Egret	SE	Nests in mixed	No	If this type of habitat will	If this type of	No, habitat
(Egretta thula)		heronries.		not be impacted, this project	habitat will be	not present.
				is not likely to impact this	impacted,	
				species.	construction	
					should be	
					avoided in this	
					habitat during	
					specie's	
					nesting period	
					from April 1 –	
					August 31.	
King Rail	SE	Shallow marshes that	No	If this type of habitat will	If this type of	No, habitat
(Rallus elegans)		contain patches of		not be impacted, this project	habitat will be	not present.
		deeper, open water.		is not likely to impact this	impacted,	
				species.	construction	
					should be	
					avoided in this	
					habitat during	
					specie's	
					nesting period	
					from May 1 –	
					July 31.	



Species	Statusa	Typical Habitat	Potential Habitat	Agency Comment	Avoidance	Potential
Common Tern (Sterna hirundo)	SE	Rocky islands, barrier beaches, and saltmarshes, foraging over open waters.	No	If this type of habitat will not be impacted, this project is not likely to impact this species.	If this type of habitat will be impacted, construction should be avoided in this habitat during specie's nesting period from May 1 –	No, habitat not present.
Trumpeter Swan (Cygnus buccinator)	ST	Prefer large marshes and lakes ranging in size from 40-150 acres. Shallow wetlands 1-3 ft deep with diverse mix of emergent and submergent vegetation and open water.	No	If this type of habitat will not be impacted, this project is not likely to impact this species.	July 31.  If this type of habitat will be impacted, construction should be avoided in this habitat during specie's nesting period from April 15 – June 15.	No, habitat not present.



Species	Status <sup>a</sup>	Typical Habitat	Potential Habitat Observed	Agency Comment	Avoidance Dates	Potential Impact
Sandhill Crane (Grus canadensis)	ST	Wetland dependent species. Wintering grounds, will utilize agricultural fields; however, they roost in shallow, standing water or moist bottom lands. Breeding grounds they require large tract of wetland meadow, shallow marsh, or bog for nesting.	No, wetland habitat present but no wetland with standing water or marshes.	If this type of habitat will not be impacted, this project is not likely to impact this species.	If grassland, prairie or wetland habitat will be impacted, construction should be avoided in this habitat during species' nesting period of April 1 – August 31.	No, habitat not present.
Least Bittern (Ixobrychus exilis)	ST	Prefers dense emergent wetlands with dense, tall growths of aquatic or semiaquatic vegetation interspersed with clumps of woody vegetation and open water.	No	If this type of habitat will not be impacted, this project is not likely to impact this species.	If this type of habitat will be impacted, construction should be avoided in this habitat during specie's nesting period from May 1 – July 31.	No, habitat not present.



Species	Status <sup>a</sup>	Typical Habitat	Potential Habitat	<b>Agency Comment</b>	Avoidance	Potential
			Observed		Dates	Impact
Black-Crowned Night-Heron (Nycticorax nycticorax)	ST	Forage in wetlands and other shallow aquatic habitats and roost nearby. Nest in small trees, saplings, shrubs or sometimes on ground near bodies of water and wetlands.	No	If this type of habitat will not be impacted, this project is not likely to impact this species.	If this type of habitat will be impacted, construction should be avoided in this habitat during specie's nesting period from May 1 –	No, habitat not present.
Upland sandpiper (Bartramia longicauda)	SE	Nesting upland sandpipers utilize dry grasslands, pasture, hayfields.	No	If this type of habitat will not be impacted, this project is not likely to impact this species.	July 31.  If this type of habitat will be impacted, construction should be avoided in this habitat during specie's nesting period from April 15 – July 31.	No, habitat not present.
Sharp-Shinned Hawk (Accipiter striatus)	SC	Inhabits coniferous or mixed woodlands.	No	N/A	N/A	No, habitat not present.



Species	Status <sup>a</sup>	Typical Habitat	Potential Habitat Observed	Agency Comment	Avoidance Dates	Potential Impact
Insects						
Karner Blue (Lycaeides melissa	FE	Dry, sandy areas with open woods and clearings supporting	No	N/A	N/A	No, habitat not present.
samuelis)		wild blue lupine.				

<sup>(</sup>a) FE = Federally Endangered, FT = Federally Threatened, SE = State Endangered, ST = State Threatened, SC = Species of Concern Source: USFWS Agency Correspondence, received March 4, 2022; ODNR Agency Correspondence, received March 16, 2022



#### **SUMMARY**

Burns & McDonnell conducted a wetland delineation and onsite habitat assessment within the Survey Area to identify protected species habitat, wetlands, and other waterbodies. A total of 9 wetlands totaling 4.64 acres, and 4 streams totaling 2,571 linear feet, were identified during the delineation efforts. Its is our professional opinion that all 9 wetlands and 4 streams are jurisdictional. Three open water ponds were identified within the Survey Area. It is our professional opinion that these open water features are non-jurisdictional. If temporary or permanent fill will be placed in jurisdictional wetlands or streams that exceed 0.1 acre of impact, a Pre-Construction Notification will need to be submitted to the U.S. Army Corps of Engineers Buffalo District to receive coverage under Nationwide Permit 12 (NWP). General conditions of NWP 12 must be followed even if impacts are temporary or less than 0.1 acre. A USACE jurisdictional determination is recommended.

Several potential habitat trees capable of supporting protected bat species were identified in the upland forested habitat of the Survey Area. Tree clearing is anticipated and therefore coordination with USFWS and ODNR should be initiated. Tree clearing should be conducted between October 1<sup>st</sup> and March 31<sup>st</sup> to avoid impacts to bats. If tree clearing activities cannot be conducted during this timeframe additional agency coordination may be necessary. Furthermore, if tree clearing activities are required during the summer it is possible that the USFWS could request additional surveys.

If you have any questions or require additional information, please contact Brooke Harrison by telephone at (380) 390-2516 or by email at bharrison@burnsmcd.com.

Sincerely,

**Brooke Harrison** 

Project Manager

Attachments:

Appendix A - Figures

Povoche Havison

Appendix B - Wetland Determination Data Forms

Appendix C - Site Photographs

Appendix D - Ohio Rapid Assessment Method (ORAM) forms

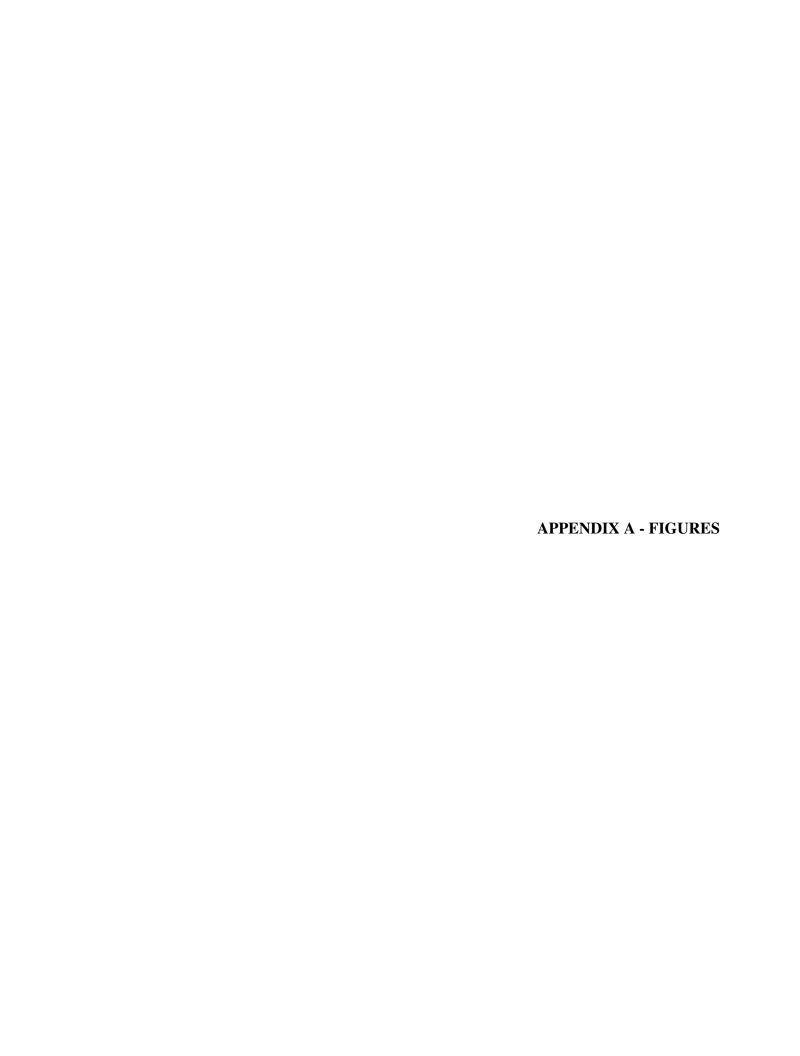
Appendix E - Headwater Habitat Evaluation Index (HHEI) forms

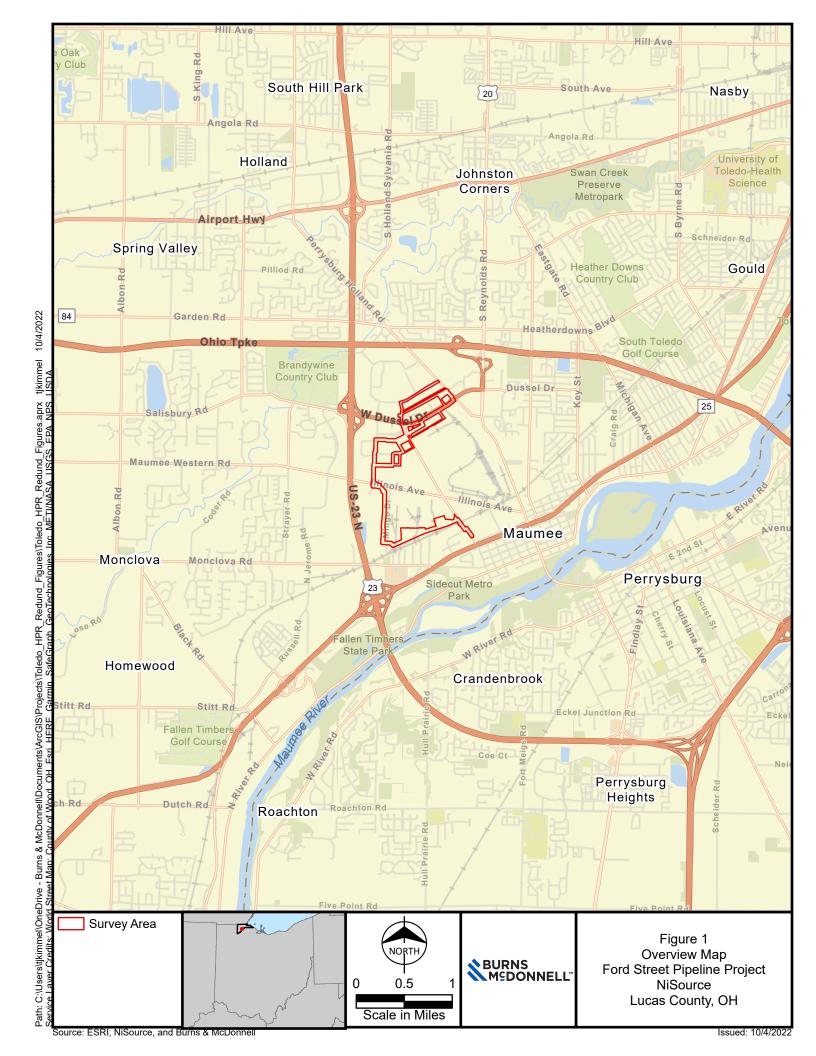


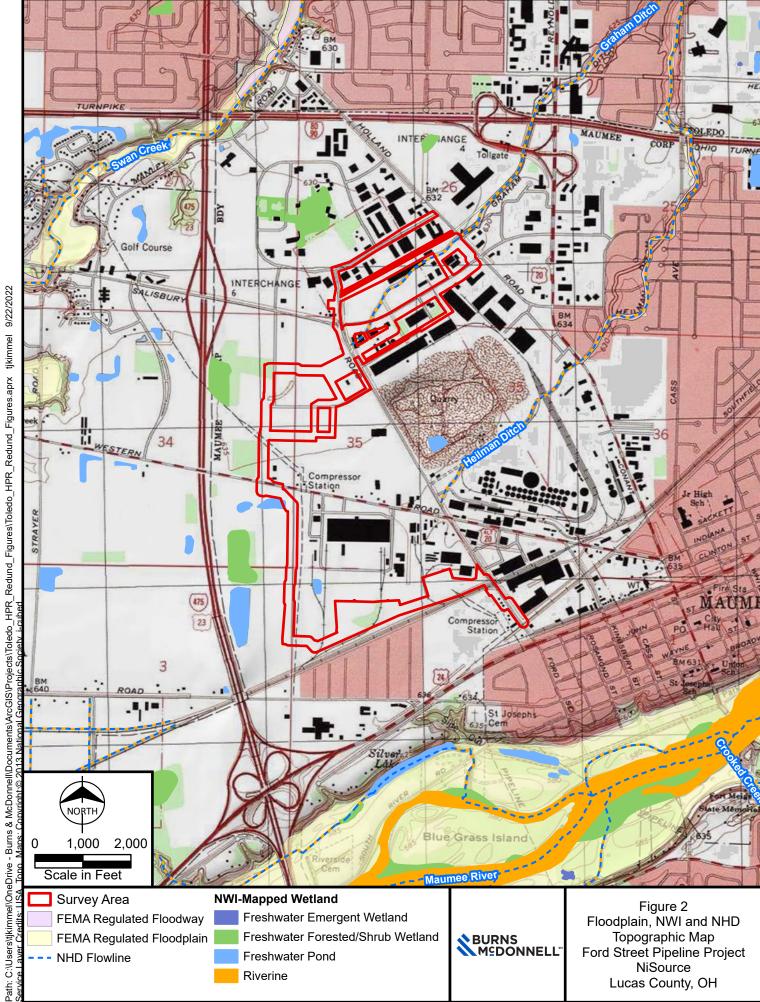
Appendix F - USFWS and ODNR Agency Correspondence

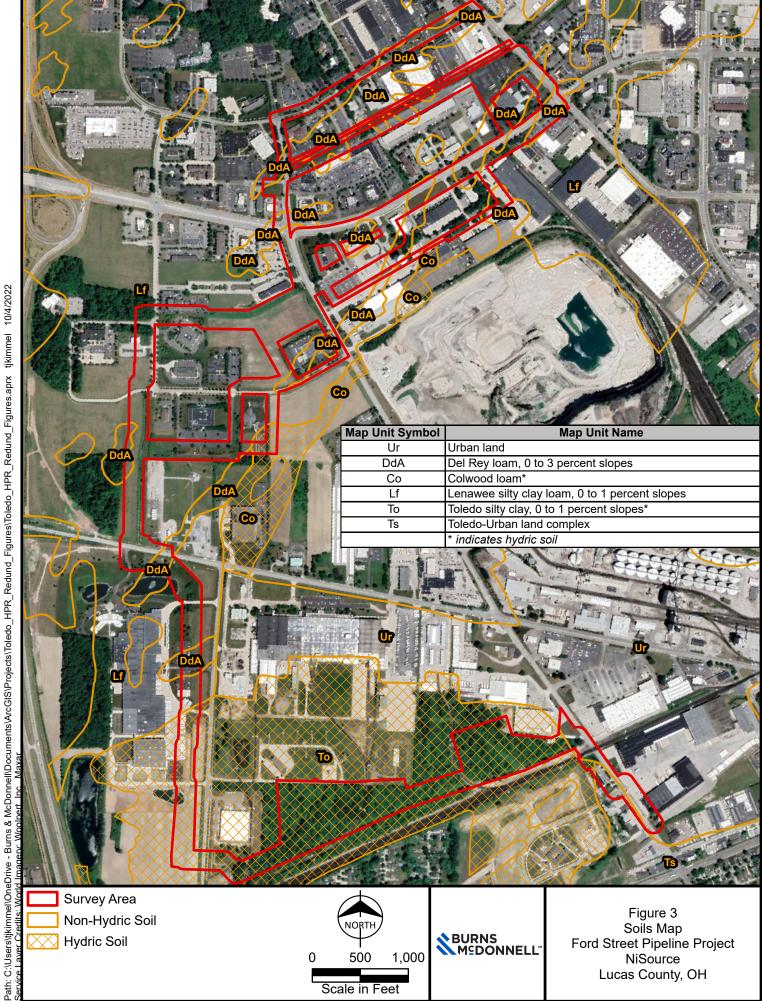
cc:

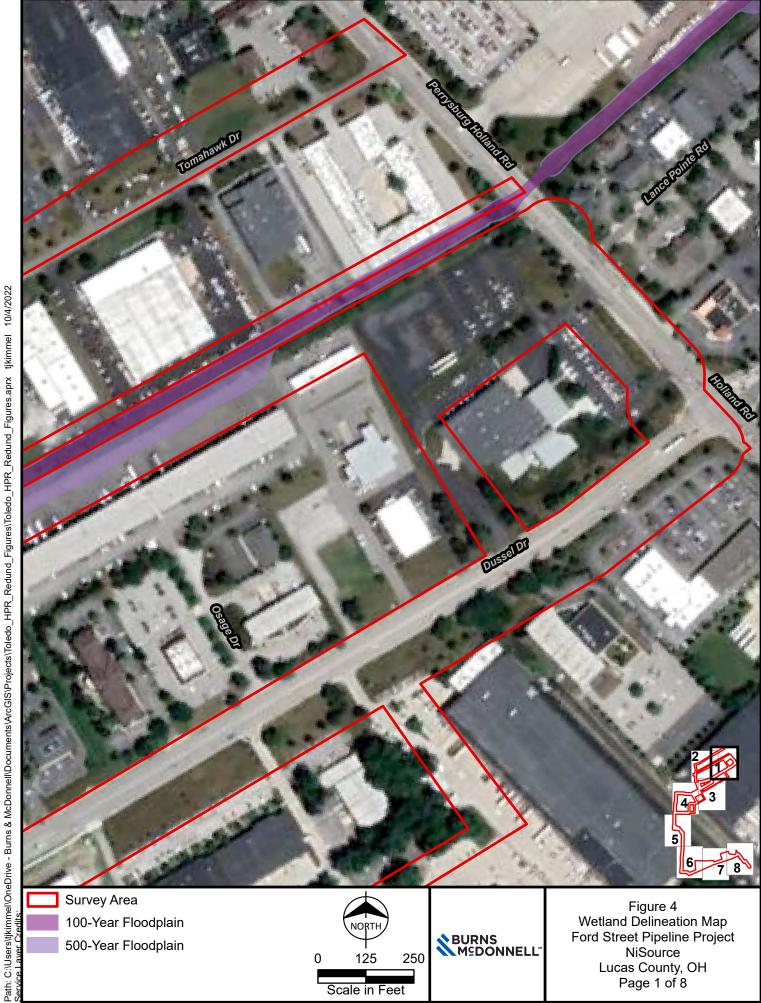
Don Myntti, NiSource Tiffany Fritchley, NiSource Gabe Smith, Burns & McDonnell James Culbertson, Burns & McDonnell Brittany Webb, Burns & McDonnell

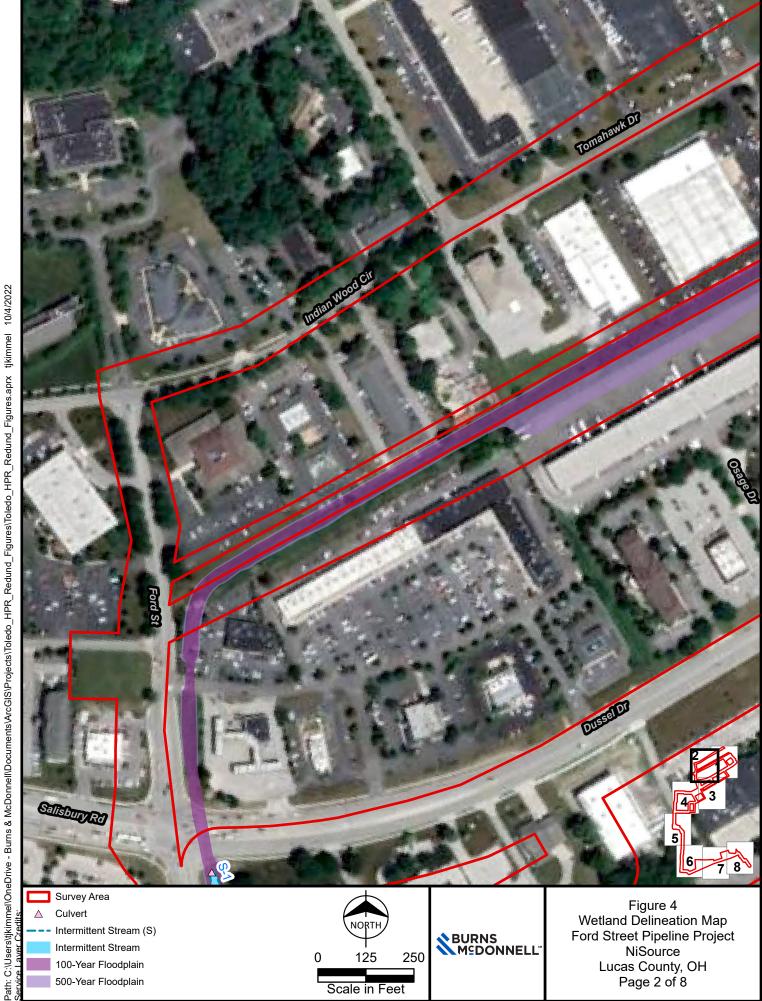


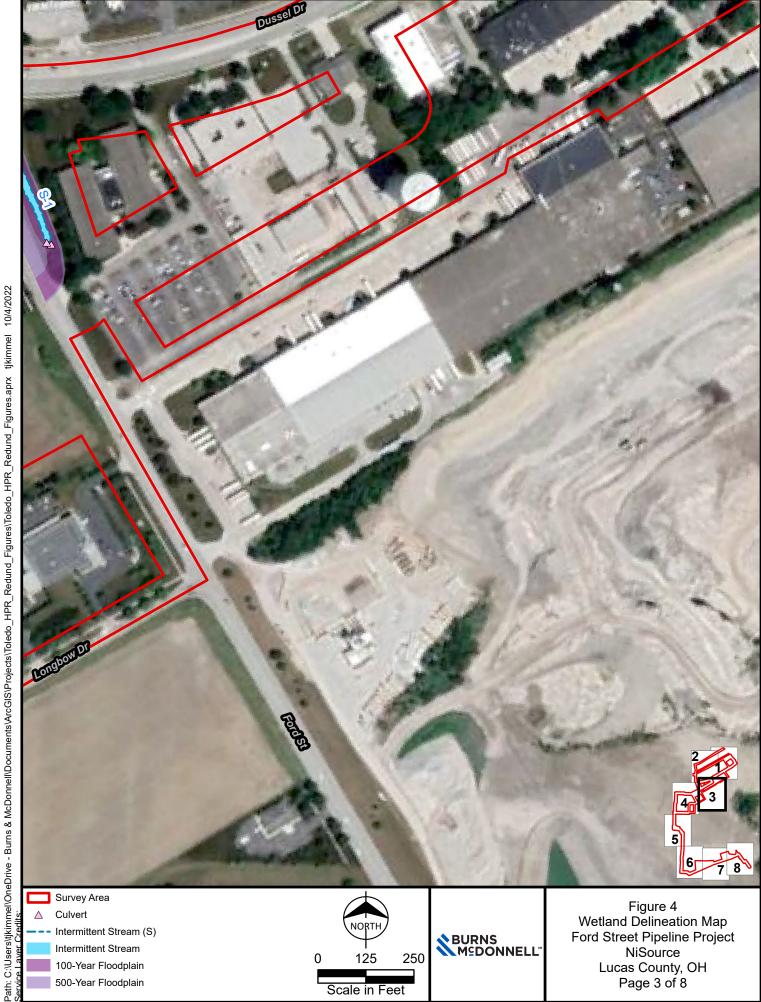


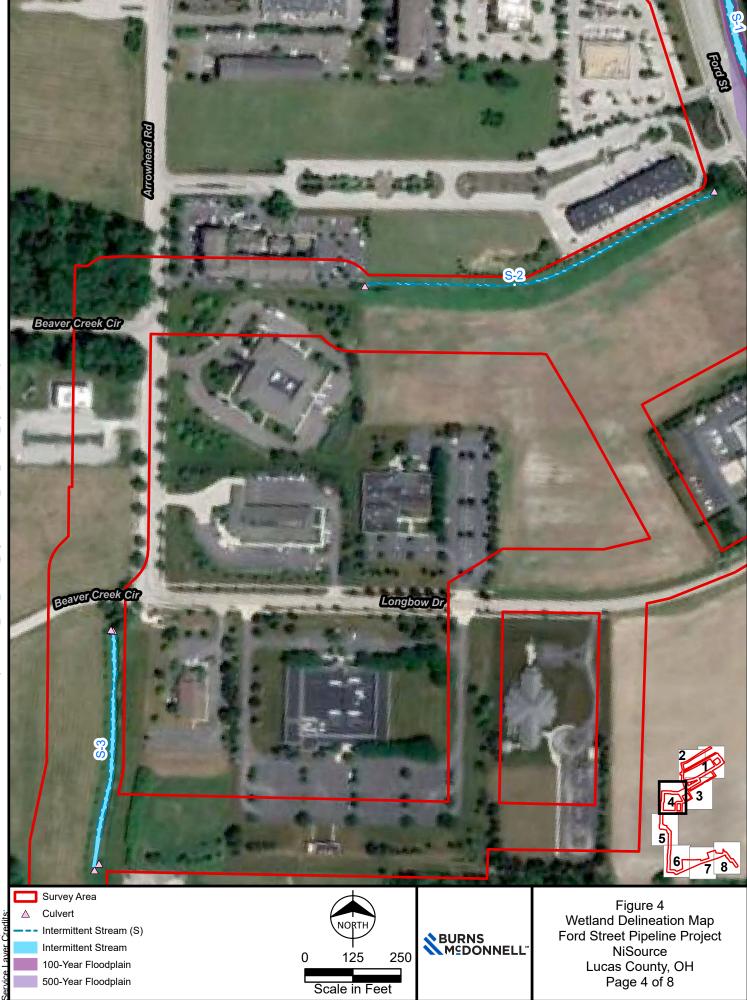




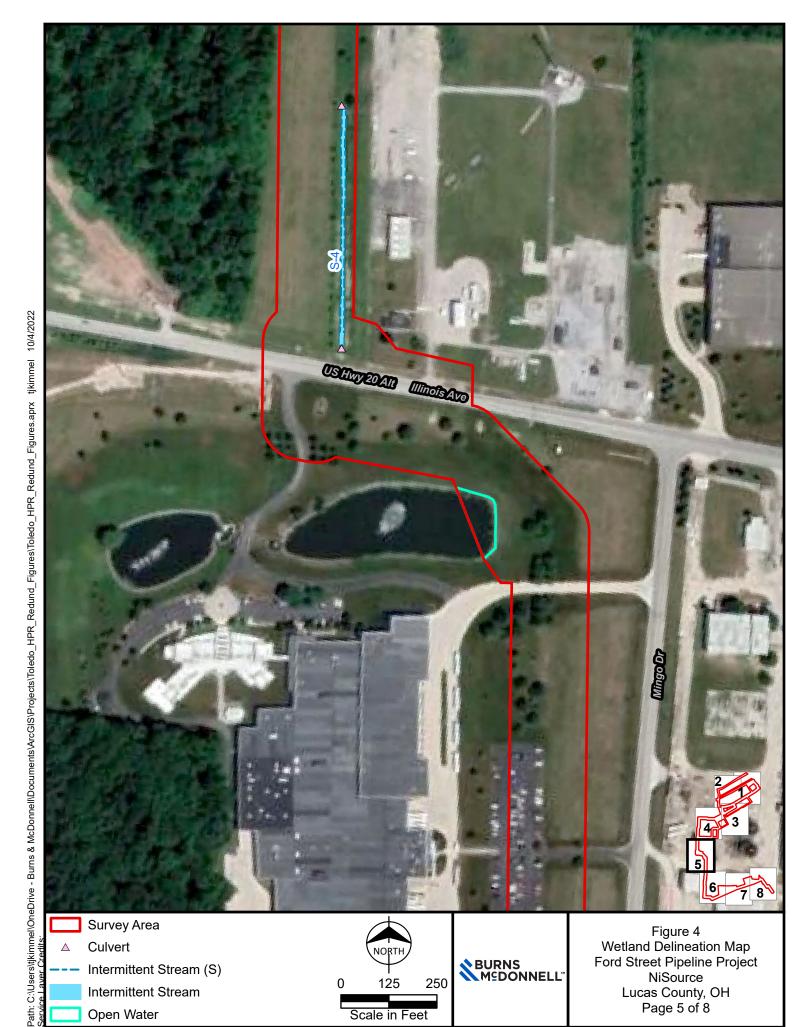








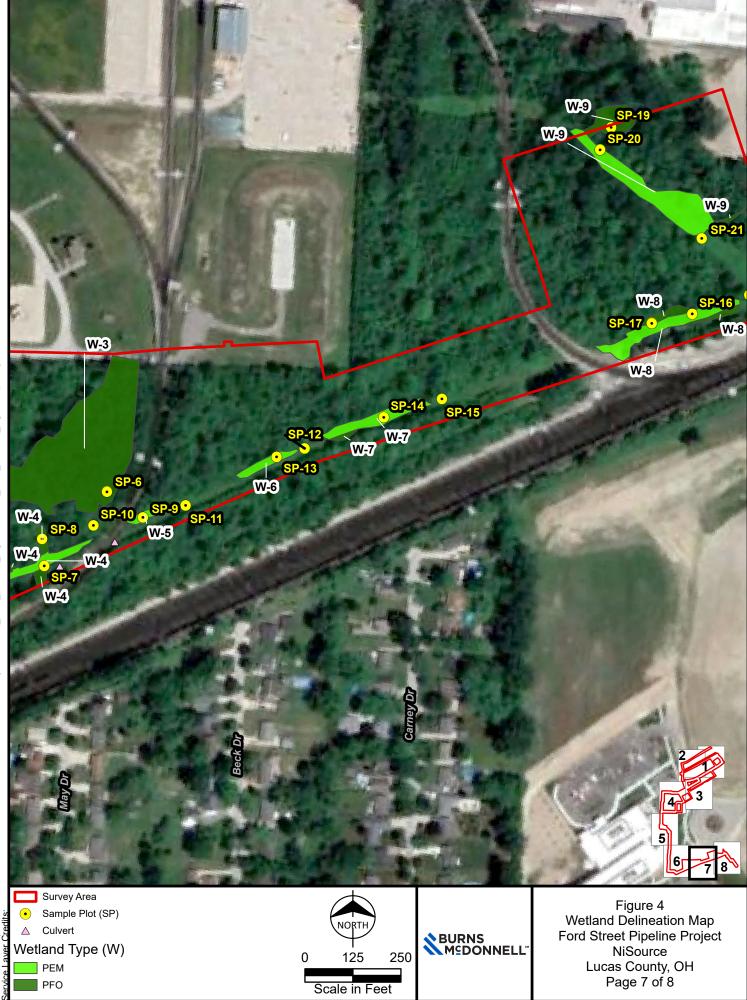
Path: C:\Users\tikimme\\OneDrive - Burns & McDonnell\Documents\ArcGlS\Projects\Toledo\_HPR\_Redund\_Figures\Toledo\_HPR\_Redund



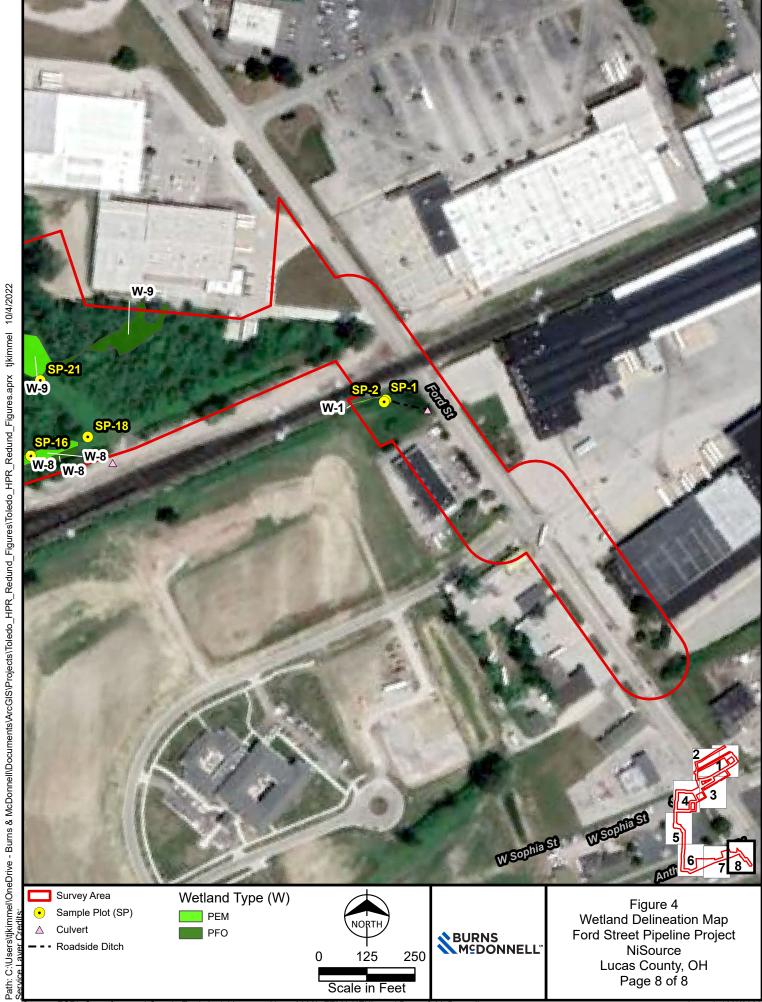
Source: ESRI, Georeferenced Google Earth Aerial Imagery (June 2022), FEMA NFHL, and Burns & McDonnell

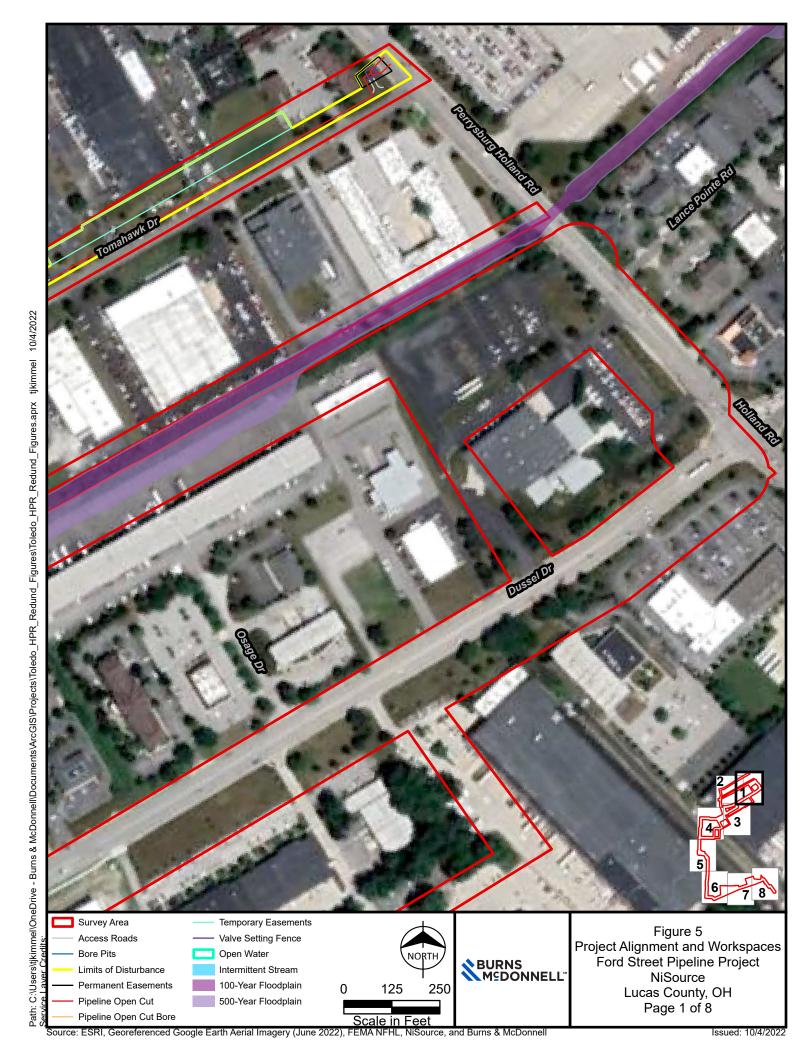
Issued: 10/4/2022

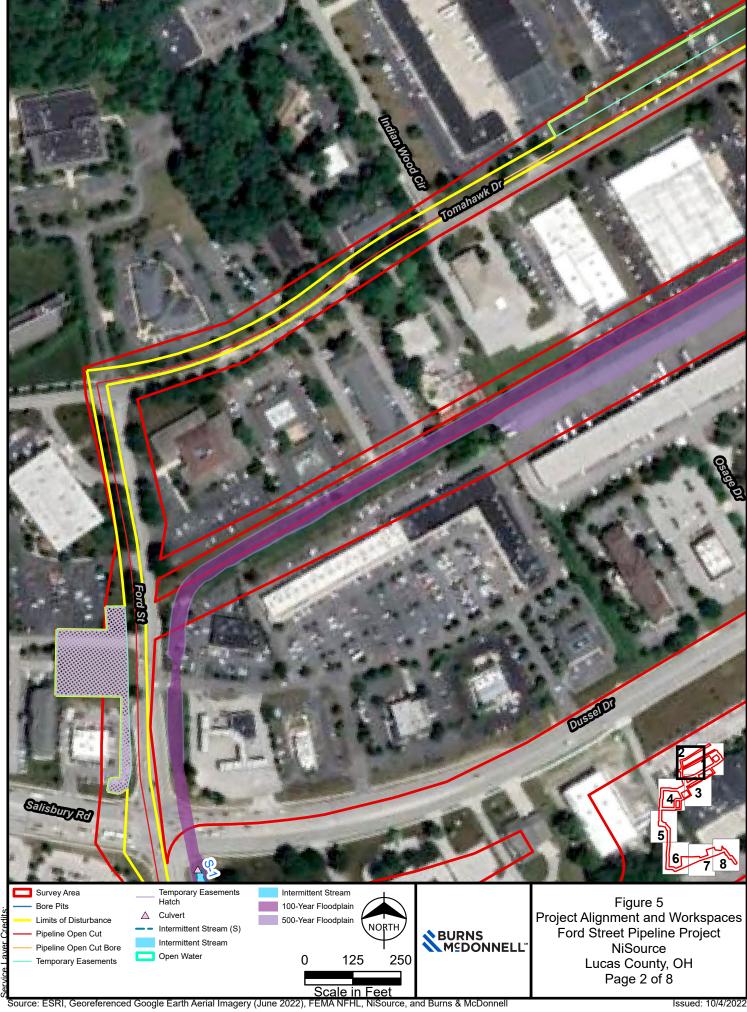




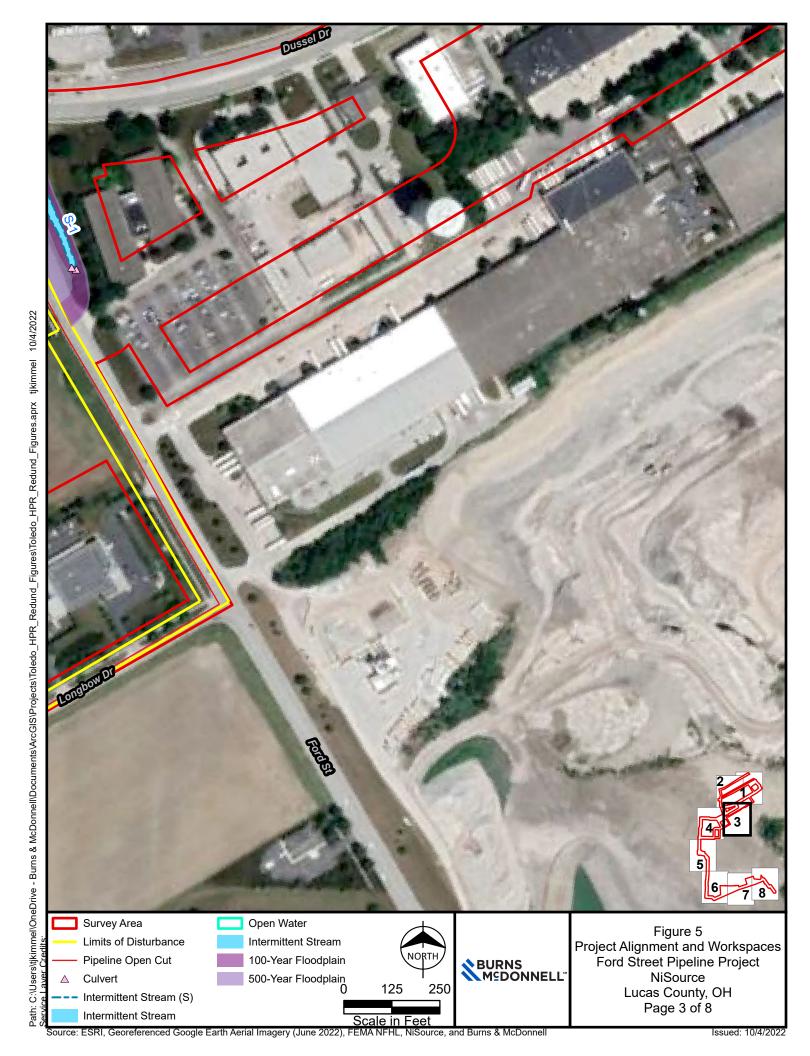
Path: C:\Users\tikimme\\OneDrive - Burns & McDonnell\Documents\ArcGlS\Projects\Toledo\_HPR\_Redund\_Figures\Toledo\_HPR\_Redund

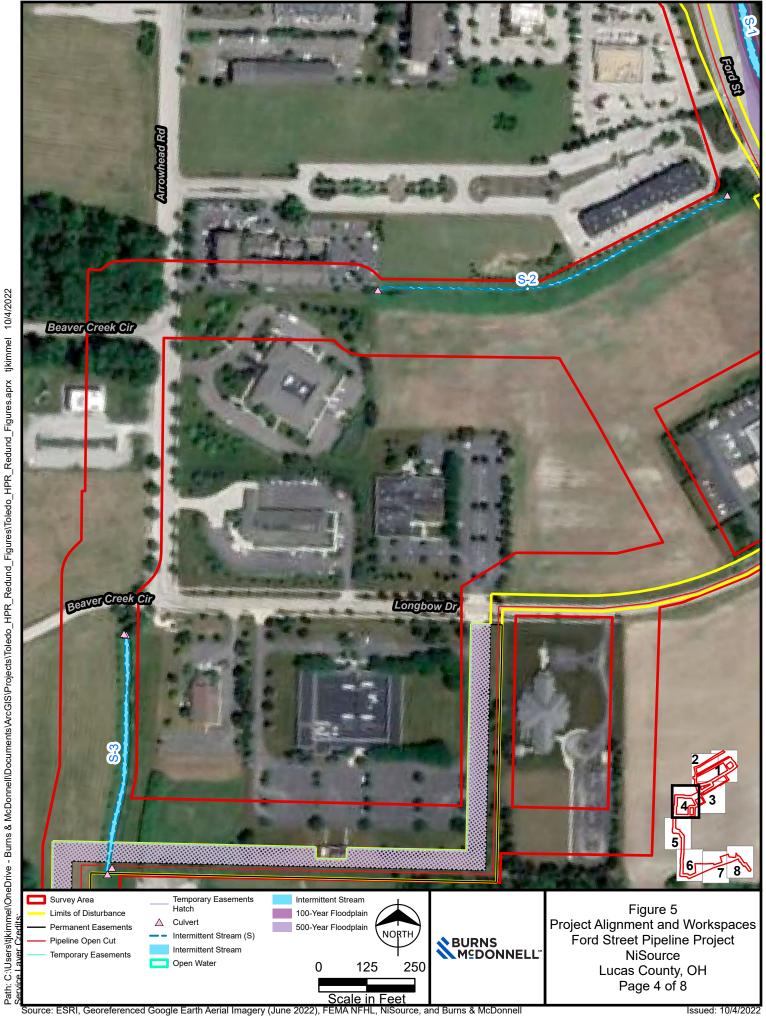


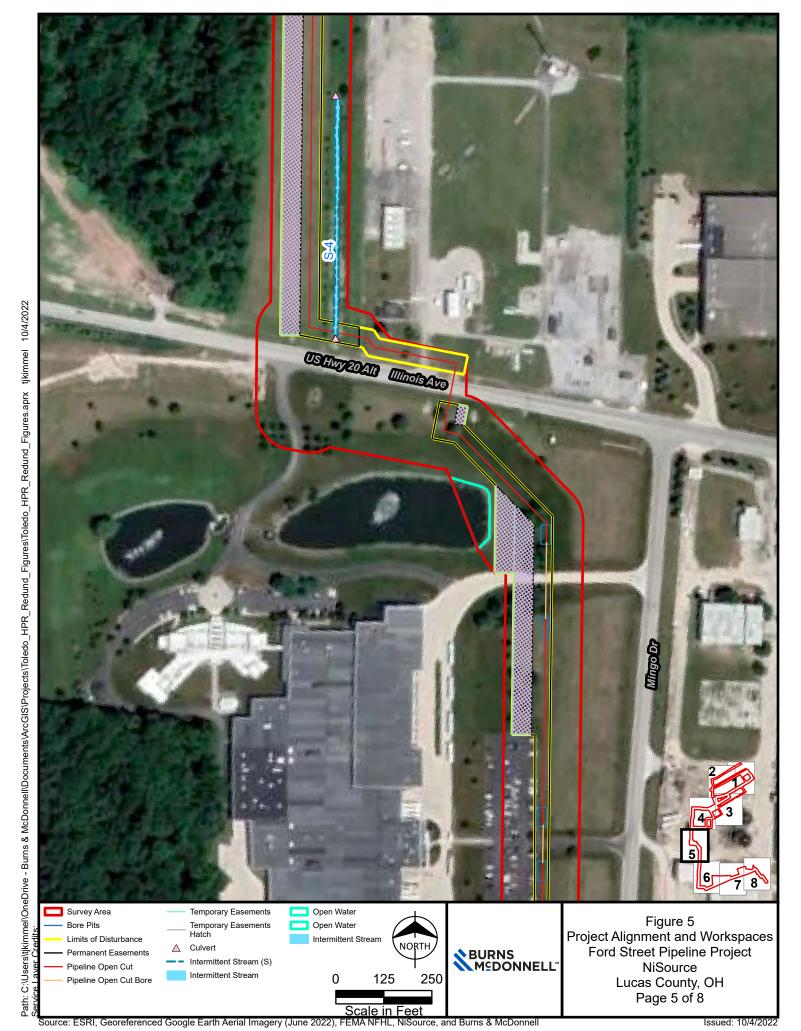




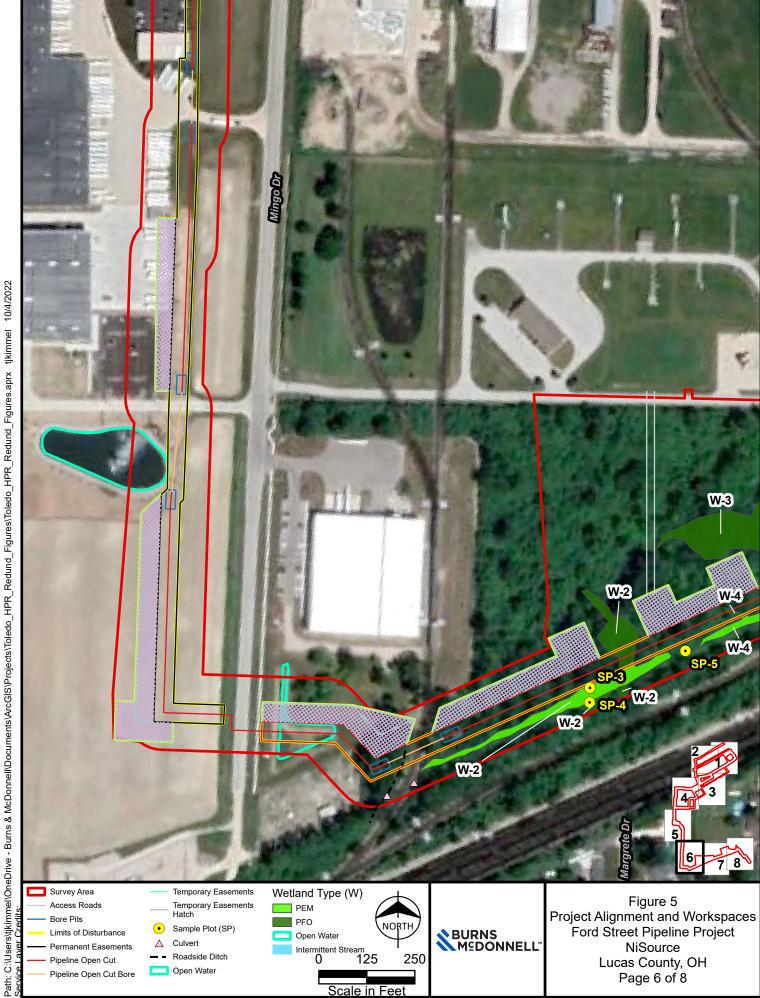
Path: C;\Users\tijkimmel\OneDrive - Burns & McDonnel\Documents\ArcGlS\Projects\Toledo\_HPR\_Redund\_Figures\Toledo\_HPR\_Redund

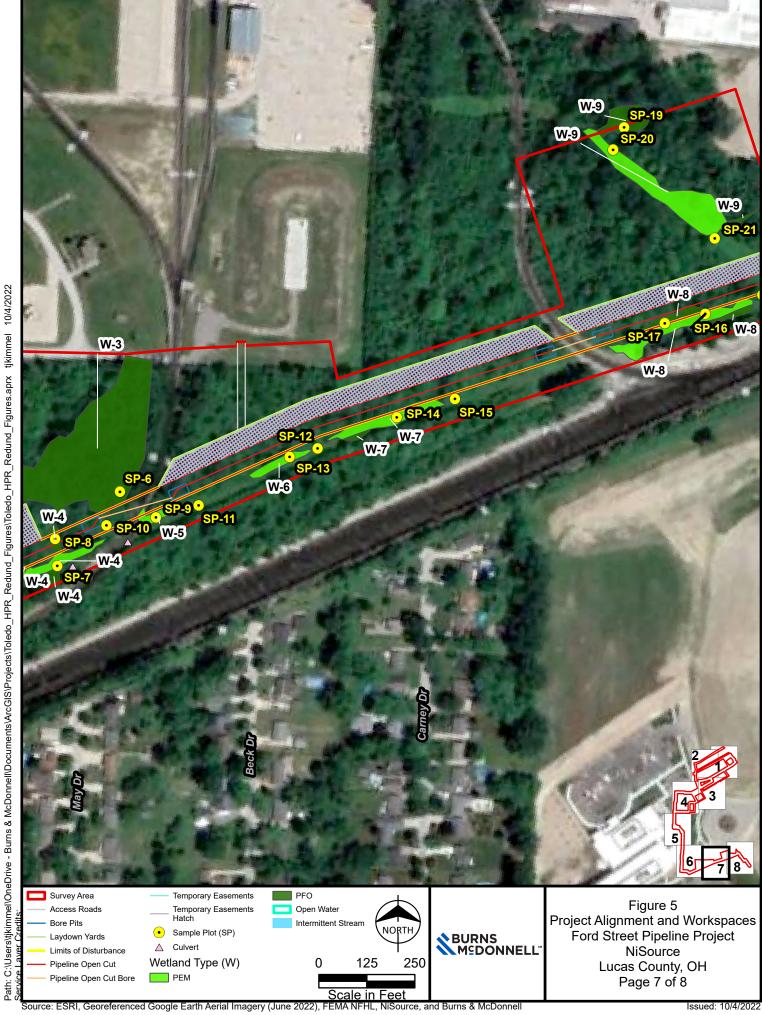


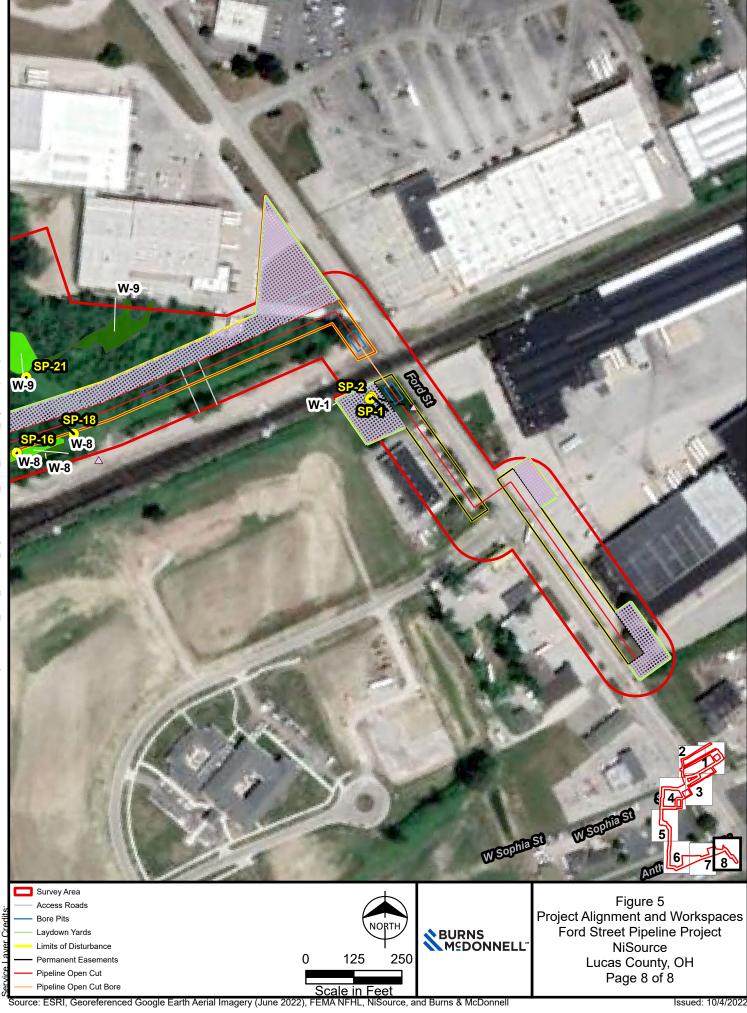




Issued: 10/4/2022







Path: C;\Users\tijkimmel\OneDrive - Burns & McDonnel\Documents\ArcGlS\Projects\Toledo\_HPR\_Redund\_Figures\Toledo\_HPR\_Redund

APPENDIX B -WETLAND DETERMINATION DATA FORMS

Project/Site: Toledo HP Redundancy Project	City/County: Maumee/Lucas Sampling Date: 05/27/2020
Applicant/Owner: NiSource	State: OH Sampling Point: 1
Investigator(s): B. Harrison/ A. O'Hare	Section, Township, Range: N/A
Landform (hillside, terrace, etc.): terrace	Local relief (concave, convex, none): concave Slope %:
Subregion (LRR or MLRA): LRR L Lat: 41.5651	
Soil Map Unit Name: Urban Land	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time	
Are Vegetation, Soil, or Hydrologysignifical	
Are Vegetation, Soil, or Hydrologynaturally	
SUMMARY OF FINDINGS – Attach site map showi	ng sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: W-1
SP-1 is located in PEM W-1. According to the Palmer Drought Severity Index (PDSI), the area	was experiencing very moist conditions at the time of the survey.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that ap	ply) Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained	Leaves (B9) Drainage Patterns (B10)
High Water Table (A2) Aquatic Fauna	
Saturation (A3)Marl Deposits	i i i i i i i i i i i i i i i i i i i
Water Marks (B1)  Hydrogen Sulf	
<del></del>	ospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
<del></del>	educed Iron (C4)  Stunted or Stressed Plants (D1)  Stunted or Stressed Plants (D2)
<u> </u>	eduction in Tilled Soils (C6)  X Geomorphic Position (D2)
Iron Deposits (B5)  Thin Muck Sur  Unundation Visible on Aerial Imagent (B7)  Other (Explain	
Inundation Visible on Aerial Imagery (B7) Other (Explain Sparsely Vegetated Concave Surface (B8)	in Remarks)  Microtopographic Relief (D4)  X FAC-Neutral Test (D5)
	A FAC-Neutral Test (D3)
Field Observations: Surface Water Present? Yes No X Depth	/inches):
	n (inches):
	n (inches): Wetland Hydrology Present? Yes X No
(includes capillary fringe)	wettalid Trydiology Fresent: Tes X No
Describe Recorded Data (stream gauge, monitoring well, aerial p	hotos, previous inspections), if available:
,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Remarks:	
Indicators A3, D2 and D5 are met.	

	Absolute	Dominant	Indicator			
ree Stratum (Plot size:)		Species?	Status	Dominance Test workshee	et:	
				Number of Dominant Specie		
				That Are OBL, FACW, or FA		(A)
				Total Number of Dominant Species Across All Strata:	1	(B)
				oposios / toroso / tir otrata.		.(5)
-				Percent of Dominant Specie		/ A /F
	_			That Are OBL, FACW, or FA		(A/E
				Prevalence Index workshe		
		=Total Cover		Total % Cover of:	Multiply by:	_
apling/Shrub Stratum (Plot size: 15'	_)			OBL species	x 1 =	_
				FACW species	x 2 =	
				FAC species	x 3 =	
				FACU species		
				UPL species		
				Column Totals:		
				Prevalence Index = E		
-				Hydrophytic Vegetation Inc		
-	_					
		=Total Cover		X 1 - Rapid Test for Hydro		
erb Stratum (Plot size:5')				X 2 - Dominance Test is >		
Typha angustifolia	100	Yes	OBL	3 - Prevalence Index is		
	_			4 - Morphological Adapt		porti
				data in Remarks or or	n a separate sheet)	
				Problematic Hydrophytic	Vegetation <sup>1</sup> (Expla	in)
				1 Indicators of budris soil and	watland hydrology	at
				<sup>1</sup> Indicators of hydric soil and be present, unless disturbed		nust
				Definitions of Vegetation S		
				Tree – Woody plants 3 in. (7		احالت ا
	_			diameter at breast height (D	BH), regardless of n	eign
)				Sapling/shrub – Woody pla		ВН
1				and greater than or equal to	3.28 ft (1 m) tall.	
2.	_			Herb - All herbaceous (non-	woody) plants, rega	rdles
	100	=Total Cover		of size, and woody plants les	ss than 3.28 ft tall.	
Yoody Vine Stratum (Plot size: 30'	_)			Woody vines – All woody vi	nes greater than 3.2	28 ft i
				height.	nos greater than o.z	.0 10
				Hydrophytic		
				Vegetation Present? Yes X	No	
		=Total Cover		riesent: ies x		

	•	to the de	•			ator or co	onfirm the absence of	indicators.)
Depth	Matrix	0/		K Featur		12	T 4	Damada
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-1	10YR 3/1	100					Loamy/Clayey	
1-16	10YR 3/1	90	10YR 4/4	10	С	M	Loamy/Clayey	Distinct redox concentrations
								_
								-
								_
¹Type: C-C	oncentration, D=Depl	etion RN	A-Reduced Matrix M	 IS-Mas	ked Sand	d Grains	<sup>2</sup> l ocation: PI	_=Pore Lining, M=Matrix.
Hydric Soil		Ction, rti	n=1 tcddccd Watrix, W	IO-IVIAS	nca oan	diams.		or Problematic Hydric Soils <sup>3</sup> :
Histosol			Polyvalue Belo	w Surfa	ce (S8) (l	LRR R,		ck (A10) ( <b>LRR K, L, MLRA 149B</b> )
	oipedon (A2)		MLRA 149B		`	,		airie Redox (A16) ( <b>LRR K, L, R</b> )
	stic (A3)		Thin Dark Surf	ace (S9)	(LRR R	, MLRA 1		cky Peat or Peat (S3) (LRR K, L, R)
Hydroge	n Sulfide (A4)		High Chroma S	Sands (S	611) ( <b>LRI</b>	R K, L)	Polyvalue	e Below Surface (S8) ( <b>LRR K, L</b> )
Stratified	d Layers (A5)		Loamy Mucky	Mineral	(F1) ( <b>LR</b> I	RK, L)	Thin Dark	k Surface (S9) ( <b>LRR K, L</b> )
Depleted	d Below Dark Surface	e (A11)	Loamy Gleyed	Matrix (	F2)		Iron-Man	ganese Masses (F12) ( <b>LRR K, L, R</b> )
	ark Surface (A12)		Depleted Matri					t Floodplain Soils (F19) (MLRA 149B)
	lucky Mineral (S1)		X Redox Dark Su					oodic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
	Gleyed Matrix (S4)		Depleted Dark					ent Material (F21)
	Redox (S5)		Redox Depress		8)			Illow Dark Surface (F22)
	Matrix (S6)		Marl (F10) ( <b>LR</b>	HK, L)			Other (Ex	xplain in Remarks)
Dark Su	rface (S7)							
<sup>3</sup> Indicators o	f hydrophytic vegetati	ion and v	vetland hydrology mu	ıst be pr	esent. ur	nless dist	urbed or problematic.	
	Layer (if observed):						p	
Type:	,							
Depth (ii	nches):						Hydric Soil Presen	t? Yes X No
Remarks:								
	m is revised from No	rthcentra	and Northeast Reg	onal Su	pplemen	t Version	2.0 to include the NRC	S Field Indicators of Hydric Soils,
Version 7.0,	2015 Errata. (http://w	ww.nrcs	usda.gov/Internet/FS	SE_DOO	CUMENT	S/nrcs14	2p2_051293.docx)	

Project/Site: Toledo HP Redundancy Project	City/County: Maumee/Lucas Sampling Date: 05/27/2020
Applicant/Owner: NiSource	State: OH Sampling Point: 2
Investigator(s): B. Harrison/ A. O'Hare	Section, Township, Range: N/A
Landform (hillside, terrace, etc.): terrace Loca	I relief (concave, convex, none): convex Slope %:
Subregion (LRR or MLRA): LRR L Lat: 41.565143	Long: -83.669102 Datum: NAD 83
Soil Map Unit Name: Urban Land	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly distu	· · ·
Are Vegetation, Soil, or Hydrology naturally problem	natic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing same	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No X	Is the Sampled Area
Hydric Soil Present? Yes No X	within a Wetland? Yes No _X_
Wetland Hydrology Present? Yes No X	If yes, optional Wetland Site ID:
SP-2 is located in upland adjacent to PEM W-1. According to the Palmer Drought Severity Index (PDSI), the area was exp	eriencing very moist conditions at the time of the survey.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)Water-Stained Leaves	(B9) Drainage Patterns (B10)
High Water Table (A2)  Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3) Marl Deposits (B15)	Dry-Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide Odor	(C1) Crayfish Burrows (C8)
Sediment Deposits (B2)  Oxidized Rhizospheres	on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Reduced I	ron (C4) Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4) Recent Iron Reduction	in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Surface (C7	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)Other (Explain in Rema	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No _X Depth (inches	):
Water Table Present? Yes No X Depth (inches	):
Saturation Present? Yes No X Depth (inches	): Wetland Hydrology Present? Yes No _X
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pr	revious inspections), if available:
Remarks:	
No indicators met.	

<u>Tree Stratum</u> (Plot size: 30' )	Absolute	Dominant Species?	Indicator	Dominance Test worksheet:		
	% Cover	Species?	Status	Dominance Test Worksneet:		
2.		· · · · · · · · · · · · · · · · · · ·		Number of Dominant Species That Are OBL, FACW, or FAC:  0	_(A)	
3				Total Number of Dominant Species Across All Strata: 3	_(B)	
5 6				Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0%	(A/B)	
7.				Prevalence Index worksheet:	<u>-` ′</u>	
		=Total Cover		Total % Cover of: Multiply by:		
Sapling/Shrub Stratum (Plot size: 15'	)			OBL species 0 x 1 = 0		
i				FACW species 0 x 2 = 0		
2.				FAC species 10 x 3 = 30		
3.				FACU species 115 x 4 = 460		
1.				UPL species 10 x 5 = 50		
5.				Column Totals: 135 (A) 540	— (B)	
5				Prevalence Index = B/A = 4.00	<u> </u>	
7.				Hydrophytic Vegetation Indicators:		
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation		
Herb Stratum (Plot size: 5' )				2 - Dominance Test is >50%		
1. Poa pratensis	40	Yes	FACU	3 - Prevalence Index is ≤3.0 <sup>1</sup>		
2. Schedonorus arundinaceus	25	Yes	FACU	4 - Morphological Adaptations <sup>1</sup> (Provide suppo		
3. Festuca rubra	20	Yes	FACU	data in Remarks or on a separate sheet)	)	
1. Dactylis glomerata	10	No	FACU	Problematic Hydrophytic Vegetation <sup>1</sup> (Expla	ain)	
5. Dipsacus fullonum	10	No	FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology	muet	
6. Melilotus altissimus	10	No	UPL	be present, unless disturbed or problematic.	must	
7. Toxicodendron radicans	10	No	FAC	Definitions of Vegetation Strata:		
3. Achillea millefolium	5	No	FACU	Tree – Woody plants 3 in. (7.6 cm) or more in		
Parthenocissus quinquefolia	5	No	FACU	diameter at breast height (DBH), regardless of h	height.	
10 11				Sapling/shrub – Woody plants less than 3 in. I and greater than or equal to 3.28 ft (1 m) tall.	DBH	
12.		=Total Cover		<b>Herb</b> – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall.	ardless	
Woody Vine Stratum (Plot size: 30'	<u> 135</u> :	= Total Govel				
1.	·			<b>Woody vines</b> – All woody vines greater than 3. height.	28 ft ir	
2				Hydrophytic		
3				Vegetation		
4				Present? Yes No X		
	<u> </u>	=Total Cover				

Depth	Matrix			x Featur	es		onfirm the absence of in	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-3	10YR 4/2	100					Loamy/Clayey	
3-7	10YR 4/3	75	10YR 4/3	25	С	M	Loamy/Clayey	Faint redox concentrations
7-12	10YR 4/3	95	10YR 4/4	5	С	M	Loamy/Clayey	Faint redox concentrations
<sup>1</sup> Type: C. Co	noontration D Donl	otion DM	Poduced Matrix A		Lod Con		<sup>2</sup> l postion: Pl I	Para Lining M. Matriy
Hydric Soil I	ncentration, D=Depl	elion, rivi	=Reduced Matrix, N	/IS=IVIAS	keu Sand	diams.		Problematic Hydric Soils <sup>3</sup> :
Histosol			Polyvalue Belo	w Surfa	ce (S8) (	LRR R,		(A10) ( <b>LRR K, L, MLRA 149B</b> )
Histic Ep	ipedon (A2)	•	MLRA 149B	,				e Redox (A16) (LRR K, L, R)
Black His	,		Thin Dark Surf					Peat or Peat (S3) (LRR K, L, R)
	Sulfide (A4)		High Chroma S					elow Surface (S8) (LRR K, L)
	Layers (A5)	. (411)	Loamy Mucky			R K, L)		Surface (S9) (LRR K, L)
	Below Dark Surface rk Surface (A12)	(A11)	Loamy Gleyed Depleted Matri		F2)			nese Masses (F12) ( <b>LRR K, L, R</b> ) loodplain Soils (F19) ( <b>MLRA 149B</b> )
	ucky Mineral (S1)	•	Redox Dark Su		6)			ic (TA6) (MLRA 144A, 145, 149B)
	leyed Matrix (S4)	•	Depleted Dark					Material (F21)
	edox (S5)	•	Redox Depress					w Dark Surface (F22)
Stripped	Matrix (S6)	•	Marl (F10) ( <b>LR</b>	RK, L)			Other (Expl	ain in Remarks)
Dark Sur	face (S7)							
<sup>3</sup> Indicators of	hydronhytic vegetati	on and we	etland hydrology mi	ıst he nı	esent ur	nless dist	urbed or problematic.	
	ayer (if observed):		,	ж. Бе р.			and a problemation	
Type:	compac	t soil						
Depth (in	ches):	12					Hydric Soil Present?	Yes No _X
	n is revised from No 2015 Errata. (http://w							Field Indicators of Hydric Soils,

Project/Site: Toledo HP Redundancy Project	City/County: Maumee/Lucas Sampling Date: 06/25/2020
Applicant/Owner: NiSource	State: OH Sampling Point: 3
Investigator(s): B. Harrison/ A. O'Hare	Section, Township, Range: N/A
	relief (concave, convex, none): concave Slope %:
Subregion (LRR or MLRA): LRR L Lat: 41.562326	Long: -83.680331 Datum: NAD 83
Soil Map Unit Name: Toledo silty clay, 0-1% slopes	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly distur	<u> </u>
Are Vegetation, Soil, or Hydrology naturally problems	
SUMMARY OF FINDINGS – Attach site map showing sam	
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: W-2
SP-3 is located in PEM portion of PEM/PFO W-2.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leaves (	B9) Drainage Patterns (B10)
High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3) — Marl Deposits (B15)	Dry-Season Water Table (C2)
X Water Marks (B1) Hydrogen Sulfide Odor (	
X Sediment Deposits (B2) Oxidized Rhizospheres	
Drift Deposits (B3) Presence of Reduced In	
Algal Mat or Crust (B4)  Recent Iron Reduction in	· · · · · · · · · · · · · · · · · · ·
Iron Deposits (B5) Thin Muck Surface (C7)	
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remar	
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (inches)	
Water Table Present? Yes No X Depth (inches)	
Saturation Present? Yes No X Depth (inches)	: Wetland Hydrology Present? Yes X No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:
Remarks: Indicators B1, B2, C8, C9, D2, D5 are met.	

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
· ———		<del></del>				
2.				Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
3.					-	<b>-</b> `′
i.				Total Number of Dominant Species Across All Strata:	3	(B)
5.				Devices of Devices of Connection		_ ` ′
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0%	(A/B
7.				Prevalence Index worksheet:		
		=Total Cover		Total % Cover of:	Multiply by:	
Sapling/Shrub Stratum (Plot size:15'	)			OBL species	x 1 =	
·				FACW species	x 2 =	
2.					x 3 =	
i.				FACU species	x 4 =	
					x 5 =	
				Column Totals:	(A)	(B
3.				Prevalence Index = B/A	\ =	
·				Hydrophytic Vegetation Indic	ators:	
		=Total Cover		1 - Rapid Test for Hydroph	ytic Vegetation	
Herb Stratum (Plot size:5' )				X 2 - Dominance Test is >50	%	
. Scirpus cyperinus	40	Yes	OBL	3 - Prevalence Index is ≤3.	01	
. Juncus dudleyi	30	Yes	FACW	4 - Morphological Adaptation		
Bidens frondosa	20	Yes	FACW	data in Remarks or on a	separate sheet)	)
Asclepias incarnata	5	No	OBL	Problematic Hydrophytic V	egetation <sup>1</sup> (Expla	ain)
Toxicodendron radicans	2	No	FAC	<sup>1</sup> Indicators of hydric soil and we	etland hydrology	must
S. Carex vulpinoidea	2	No	OBL	be present, unless disturbed or		maot
7. Trifolium repens	1	No	FACU	Definitions of Vegetation Stra	ata:	
3. ).				Tree – Woody plants 3 in. (7.6 diameter at breast height (DBH		height
0.						
1.				Sapling/shrub – Woody plants and greater than or equal to 3.2		חסט
2	· ———			Herb - All herbaceous (non-wo		ardles
	100	=Total Cover		of size, and woody plants less	than 3.28 ft tall.	
Noody Vine Stratum (Plot size: 30' )	)			Woody vines – All woody vine height.	s greater than 3.	.28 ft i
2.						
				Hydrophytic Vegetation		
)	-			Present? Yes X	No	
3. 4.						

	cription: (Describe t	o the de	-			ator or co	onfirm the absence of	f indicators.)
Depth	Matrix			K Featur		. 2	_	
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-1	10YR 3/1	95	10YR 5/6	5	<u>C</u>	M	Loamy/Clayey	Prominent redox concentrations
1-16	10YR 3/1	90	10YR 4/4	10	С	M	Loamy/Clayey	Distinct redox concentrations
								_
						<u> </u>		
							<del></del>	
<sup>1</sup> Type: C=Co	oncentration, D=Depl	etion, RN	M=Reduced Matrix, M	1S=Mas	ked Sand	d Grains.	<sup>2</sup> Location: P	L=Pore Lining, M=Matrix.
Hydric Soil		<u> </u>	•					or Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)		Polyvalue Belo	w Surfa	ce (S8) (	LRR R,	2 cm Mu	ick (A10) ( <b>LRR K, L, MLRA 149B</b> )
Histic Ep	pipedon (A2)		MLRA 149B)	)			Coast Pr	rairie Redox (A16) ( <b>LRR K, L, R</b> )
Black Hi	stic (A3)		Thin Dark Surfa	ace (S9)	(LRR R	, MLRA 1	<b>49B</b> ) 5 cm Mu	icky Peat or Peat (S3) (LRR K, L, R)
Hydroge	n Sulfide (A4)		High Chroma S	Sands (S	611) ( <b>LRI</b>	R K, L)	Polyvalu	e Below Surface (S8) ( <b>LRR K, L</b> )
	l Layers (A5)		Loamy Mucky I			R K, L)		k Surface (S9) ( <b>LRR K, L</b> )
	d Below Dark Surface	(A11)	Loamy Gleyed		F2)		Iron-Mar	nganese Masses (F12) (LRR K, L, R)
	ark Surface (A12)		Depleted Matrix					nt Floodplain Soils (F19) ( <b>MLRA 149B</b> )
	lucky Mineral (S1)		X Redox Dark Su					podic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
	ileyed Matrix (S4)		Depleted Dark					ent Material (F21)
	edox (S5)		Redox Depress		8)			allow Dark Surface (F22)
	Matrix (S6) rface (S7)		Marl (F10) ( <b>LR</b>	H K, L)			Other (E	xplain in Remarks)
Dark Sur	nace (S7)							
<sup>3</sup> Indicators o	f hydrophytic vegetati	on and v	vetland hvdrologv mu	ıst be pr	esent. ur	nless dist	urbed or problematic.	
	Layer (if observed):		, , , , , , , , , , , , , , , , , , ,		.,.		P	
Type:								
Depth (in	nches):						Hydric Soil Preser	nt? Yes X No
Remarks:						J		
								CS Field Indicators of Hydric Soils,
Version 7.0,	2015 Errata. (http://w	ww.nrcs	.usda.gov/Internet/FS	SE_DOO	CUMENT	S/nrcs14	2p2_051293.docx)	

Project/Site: Toledo HP Redundancy Project	City/County: Maumee/Lucas Sampling Date: 06/25/2020
Applicant/Owner: NiSource	State: OH Sampling Point: 4
Investigator(s): B. Harrison/ A. O'Hare	Section, Township, Range: N/A
Landform (hillside, terrace, etc.): terrace Local	relief (concave, convex, none): concave Slope %:
Subregion (LRR or MLRA): LRR L Lat: 41.56222	Long: -83.680333 Datum: NAD 83
Soil Map Unit Name: Toledo silty clay, 0-1% slopes	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year?	
Are Vegetation, Soil, or Hydrologysignificantly distur	·
Are Vegetation, Soil, or Hydrologynaturally problems	atic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sam	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present?  Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: W-2
Remarks: (Explain alternative procedures here or in a separate report.)	
SP-4 is located in PFO portion of PEM/PFO W-2.	
LIVERELEGY	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	X Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leaves (I	
High Water Table (A2)  Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)  Marl Deposits (B15)	Dry-Season Water Table (C2)
X Water Marks (B1) Hydrogen Sulfide Odor (	
X Sediment Deposits (B2)  Oxidized Rhizospheres of Proposition (B2)	
Drift Deposits (B3) Presence of Reduced Iro	
Algal Mat or Crust (B4)  Recent Iron Reduction in This Much Curfoca (C7)	• • • • • • • • • • • • • • • • • • • •
Iron Deposits (B5)  Thin Muck Surface (C7)  Other (F7)  Other (F7)	
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remar	<del></del>
X Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (inches):	
Water Table Present? Yes No X Depth (inches):	
Saturation Present? Yes No X Depth (inches):	: Wetland Hydrology Present? Yes X No
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	avious inspections) if available:
Describe Necorded Data (stream gauge, monitoring well, aerial priotos, pre	inspections), if available.
Remarks:	
Indicators B1, B2, B8, B6, D2, D5 are met.	

Tree Stratum (Plot size: 30' )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
. Acer saccharinum	80	Yes	FACW	Number of Dominant Species		
2. Populus deltoides	15	No	FAC	That Are OBL, FACW, or FAC:	4	(A)
·				Total Number of Dominant Species Across All Strata:	4	_(B)
				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0%	(A/E
				Prevalence Index worksheet:		
	95	=Total Cover		Total % Cover of:	Multiply by:	
apling/Shrub Stratum (Plot size: 15'	)			OBL speciesx	(1 =	
Fraxinus pennsylvanica	20	Yes	FACW	FACW speciesx	(2 =	
Rhamnus cathartica	5	No	FAC	FAC speciesx	3 =	
Acer saccharinum	5	No	FACW	FACU species x	( 4 =	
	_			UPL speciesx	(5 =	
	_			Column Totals: (	A)	(E
				Prevalence Index = B/A =	=	
	_			Hydrophytic Vegetation Indica	itors:	
	30	=Total Cover		1 - Rapid Test for Hydrophy	tic Vegetation	
erb Stratum (Plot size:)				X 2 - Dominance Test is >50%	, o	
Toxicodendron radicans	5	Yes	FAC	3 - Prevalence Index is ≤3.0	1	
				4 - Morphological Adaptations <sup>1</sup> (Provide s data in Remarks or on a separate shee		
				Problematic Hydrophytic Ve	getation <sup>1</sup> (Expl	ain)
				<sup>1</sup> Indicators of hydric soil and wet be present, unless disturbed or p		/ must
				Definitions of Vegetation Strat	ta:	
				<b>Tree</b> – Woody plants 3 in. (7.6 c diameter at breast height (DBH)		heigh
). 				Sapling/shrub – Woody plants and greater than or equal to 3.28		DBH
2.				Herb – All herbaceous (non-woo	ody) plants, reg	jardle
	5	=Total Cover		of size, and woody plants less th	nan 3.28 ft tall.	
/oody Vine Stratum (Plot size: 30'	_)			Woody vines – All woody vines	greater than 3	.28 ft
Vitis riparia	10	Yes	FAC	height.		
				Hydrophytic		
	_			Vegetation	Ma	
		T-1-1 0		Present? Yes X	No	
	10	=Total Cover				

Profile Desc Depth	cription: (Describe t Matrix	to the de	=	ı <b>ment ti</b> < Featur		ator or co	onfirm the absence of	f indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6	10YR 3/1	95	10YR 4/4	5	С	M	Loamy/Clayey	Distinct redox concentrations
6-20	10YR 3/1	80	10YR 5/6	15	С	M	Loamy/Clayey	Prominent redox concentrations
			10YR 6/4	5	С	M		Distinct redox concentrations
<sup>1</sup> Type: C=C	oncentration, D=Depl	etion, RN	M=Reduced Matrix, M	IS=Mas	ked Sand	d Grains.	<sup>2</sup> Location: Pl	L=Pore Lining, M=Matrix.
Hydric Soil	Indicators:							or Problematic Hydric Soils <sup>3</sup> :
Histosol			Polyvalue Belo		ce (S8) (	LRR R,		ck (A10) ( <b>LRR K, L, MLRA 149B</b> )
	oipedon (A2)		MLRA 149B)		. /I DD D			rairie Redox (A16) (LRR K, L, R)
	stic (A3)		Thin Dark Surfa					cky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) d Layers (A5)		High Chroma S Loamy Mucky I					e Below Surface (S8) ( <b>LRR K, L</b> ) k Surface (S9) ( <b>LRR K, L</b> )
	d Layers (A3) d Below Dark Surface	Δ11)	Loamy Gleyed			n K, L)		nganese Masses (F12) (LRR K, L, R)
	ark Surface (A12)	(7(1)	Depleted Matrix		· <i>L</i> )			nt Floodplain Soils (F19) (MLRA 149B)
	Mucky Mineral (S1)		X Redox Dark Su		6)			podic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
	Gleyed Matrix (S4)		Depleted Dark					ent Material (F21)
Sandy F	Redox (S5)		Redox Depress	sions (F	8)		Very Sha	allow Dark Surface (F22)
Stripped	Matrix (S6)		Marl (F10) (LR	R K, L)			Other (E:	xplain in Remarks)
Dark Su	rface (S7)							
<sup>3</sup> Indicators o	f hydrophytic vegetati	ion and v	vetland hydrology mu	ıst be pr	esent, ui	nless dist	urbed or problematic.	
Restrictive	Layer (if observed):						·	
Type:								
Depth (ii	nches):						Hydric Soil Presen	nt? Yes X No
Remarks:								
	m is revised from No 2015 Errata. (http://w							CS Field Indicators of Hydric Soils,
V 0101011 7.0,	2010 Errata: (Intp://w	7 WW.11100	asaa.gov/internet/1	JL_B00	JOIVILIVI	0/11/03 1 4	2p2_001200.d00x)	

Project/Site: Toledo HP Redundancy Project	City/County: Maumee/Lucas Sampling Date: 06/25/2020
Applicant/Owner: NiSource	State: OH Sampling Point: 5
Investigator(s): B. Harrison/ A. O'Hare	Section, Township, Range: N/A
- , ,	relief (concave, convex, none): convex Slope %:
Subregion (LRR or MLRA): LRR L Lat: 41.562597	Long: -83.679428 Datum: NAD 83
Soil Map Unit Name: Toledo silty clay, 0-1% slopes	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly distur	
Are Vegetation , Soil , or Hydrology naturally problems	
SUMMARY OF FINDINGS – Attach site map showing sam	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No X	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes No X
Wetland Hydrology Present? Yes No X	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report.) SP-5 is located in upland adjacent to PEM/PFO W-2 and W-4.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leaves (I	B9) Drainage Patterns (B10)
High Water Table (A2)  Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3) Marl Deposits (B15)	Dry-Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide Odor (	(C1) Crayfish Burrows (C8)
Sediment Deposits (B2)  Oxidized Rhizospheres of	on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Reduced Iro	on (C4) Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4) Recent Iron Reduction in	n Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remar	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No _X Depth (inches):	:
Water Table Present? Yes No X Depth (inches):	
Saturation Present? Yes No X Depth (inches):	Wetland Hydrology Present? Yes No X
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:
Remarks: No indicators met.	

Free Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test workshee	t:		
ı				Number of Dominant Species	S		
2				That Are OBL, FACW, or FA	C:	1	(A)
3. I.				Total Number of Dominant Species Across All Strata:		5	_(B)
5. 5.				Percent of Dominant Species That Are OBL, FACW, or FA		20.0%	(A/B)
7.				Prevalence Index workshee	et:		_ `
		=Total Cover		Total % Cover of:	Mu	ıltiply by:	
sapling/Shrub Stratum (Plot size:15')				OBL species 10	x 1 =	10	
. Rhamnus cathartica	10	Yes	FAC	FACW species 5	x 2 =	10	
. Pyrus calleryana	5	Yes	UPL	FAC species 20	x 3 =	60	
				FACU species 82	x 4 =	328	
				UPL species 5	x 5 =	25	
				Column Totals: 122	(A)	433	(B)
				Prevalence Index = B	/A =	3.55	
				Hydrophytic Vegetation Inc	licators:		
	15	=Total Cover		1 - Rapid Test for Hydro	ohytic Ve	getation	
lerb Stratum (Plot size:5')	_			2 - Dominance Test is >	50%		
. Schedonorus arundinaceus	30	Yes	FACU	3 - Prevalence Index is ≤	3.0 <sup>1</sup>		
. Oxalis stricta	20	Yes	FACU	4 - Morphological Adapta			
. Ambrosia artemisiifolia	15	Yes	FACU	data in Remarks or or	a separa	ate sheet)	)
. Asclepias incarnata	10	No	OBL	Problematic Hydrophytic	Vegetation	on¹ (Expla	ain)
. Toxicodendron radicans	10	No	FAC	<sup>1</sup> Indicators of hydric soil and	wetland h	vdrology	muet
. Medicago lupulina	10	No	FACU	be present, unless disturbed			must
. Bidens frondosa	5	No	FACW	Definitions of Vegetation S	trata:		
. Rubus allegheniensis	5	No	FACU	Tree – Woody plants 3 in. (7	6 cm) or	more in	
. Erigeron annuus	2	No	FACU	diameter at breast height (DE			height.
0.				Sapling/shrub – Woody plan			DBH
1				and greater than or equal to	3.28 π (1	m) taii.	
2	107	=Total Cover		<b>Herb</b> – All herbaceous (non- of size, and woody plants les			ardless
Voody Vine Stratum (Plot size: 30' )							00 (1.)
·				Woody vines – All woody vin height.	nes great	er than 3.	.28 ft ir
2.							
3.				Hydrophytic			
				Vegetation Present? Yes	No	Χ	
l.		=Total Cover			-		

Profile Desc	cription: (Describe t	to the de	•			ator or co	nfirm the absence of indicat	ors.)
Depth	Matrix			x Featur		. 2	_	
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u>%</u>	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6	10YR 3/1	95	10YR 5/6	5	<u>C</u>	<u>M</u>	Loamy/Clayey Prom	inent redox concentrations
6-18	10YR 3/1	100					Loamy/Clayey	
<sup>1</sup> Type: C=Co	oncentration, D=Depl	etion, RN	M=Reduced Matrix, M	1S=Mas	ked Sand	d Grains.	<sup>2</sup> Location: PL=Pore L	ining, M=Matrix.
Hydric Soil								ematic Hydric Soils <sup>3</sup> :
Histosol			Polyvalue Belo		ce (S8) (I	LRR R,		(LRR K, L, MLRA 149B)
	pipedon (A2)		MLRA 149B		// DD D	MIDA		dox (A16) (LRR K, L, R)
Black Hi	n Sulfide (A4)		Thin Dark Surf				· -	t or Peat (S3) ( <b>LRR K, L, R</b> ) Surface (S8) ( <b>LRR K, L</b> )
	d Layers (A5)		Loamy Mucky					e (S9) ( <b>LRR K, L</b> )
	d Below Dark Surface	e (A11)	Loamy Gleyed			, _/		Masses (F12) (LRR K, L, R)
	ark Surface (A12)	,	Depleted Matri		,			lain Soils (F19) (MLRA 149B)
Sandy M	lucky Mineral (S1)		X Redox Dark Su	ırface (F	6)		Mesic Spodic (TA	A6) (MLRA 144A, 145, 149B)
Sandy G	ileyed Matrix (S4)		Depleted Dark	Surface	(F7)		Red Parent Mate	rial (F21)
	ledox (S5)		Redox Depress		8)		Very Shallow Dar	, ,
	Matrix (S6)		Marl (F10) ( <b>LR</b>	RK, L)			Other (Explain in	Remarks)
Dark Su	rface (S7)							
<sup>3</sup> Indicators of	f hydrophytic vegetati	ion and v	etland hydrology mu	ıst be pr	esent ur	nless disti	urbed or problematic	
	Layer (if observed):		rottaria riyarology me	101 00 pi	000111, 01	11000 0101	arboa or problematic.	
Type:	, , ,							
Depth (ir	nches):						Hydric Soil Present?	Yes X No
Remarks:								
							2.0 to include the NRCS Field	Indicators of Hydric Soils,
Version 7.0,	2015 Errata. (http://w	ww.nrcs	usda.gov/Internet/FS	SE_DOC	CUMENT	S/nrcs142	2p2_051293.docx)	

Project/Site: Toledo HP Redundancy Project	City/County: Maumee/Lucas Sampling Date: 06/25/2020
Applicant/Owner: NiSource	State: OH Sampling Point: 6
Investigator(s): B. Harrison/ A. O'Hare	Section, Township, Range: N/A
	relief (concave, convex, none): concave Slope %:
Subregion (LRR or MLRA): LRR L Lat: 41.563407	Long: -83.678008 Datum: NAD 83
Soil Map Unit Name: Toledo silty clay, 0-1% slopes	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly distur	<u> </u>
Are Vegetation, Soil, or Hydrology naturally problems	
SUMMARY OF FINDINGS – Attach site map showing sam	
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present?  Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present?  Yes X No	If yes, optional Wetland Site ID: W-3
SP-6 is located in PFO W-3.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	X Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leaves (I	B9) Drainage Patterns (B10)
High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3) Marl Deposits (B15)	Dry-Season Water Table (C2)
X Water Marks (B1) Hydrogen Sulfide Odor (	(C1) Crayfish Burrows (C8)
X Sediment Deposits (B2) Oxidized Rhizospheres	on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Reduced Iro	
Algal Mat or Crust (B4)  Recent Iron Reduction in	· · · · · · · · · · · · · · · · · · ·
Iron Deposits (B5) — Thin Muck Surface (C7)	
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remar	
X Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (inches):	: <u></u>
Water Table Present? Yes No X Depth (inches):	:
Saturation Present? Yes No X Depth (inches):	: Wetland Hydrology Present? Yes X No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:
Remarks: Indicators B1, B2, B8, B6, D2, D5 are met.	

Free Stratum (Plot size: 30' )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
I. Populus deltoides	70	Yes	FAC			
2. Acer saccharinum	40	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	4	(A)
3. Quercus palustris			FACW			_ (' ')
		. ,		Total Number of Dominant Species Across All Strata:	4	_ (B)
i i				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0%	(A/E
·		· <u></u>		Prevalence Index worksheet:		
	120	=Total Cover		Total % Cover of:	Multiply by:	
Sapling/Shrub Stratum (Plot size: 15'	)	•		OBL species x	1 =	
. Fraxinus pennsylvanica	40	Yes	FACW	<u></u>	2 =	
. Acer saccharinum	5	No	FACW		3 =	
					( 4 =	
	_	· .			5 =	
					A)	
				Prevalence Index = B/A =		_`
				Hydrophytic Vegetation Indica	tors:	_
	45	=Total Cover		1 - Rapid Test for Hydrophyt		
erb Stratum (Plot size: 5' )		·		X 2 - Dominance Test is >50%	-	
·,				3 - Prevalence Index is ≤3.0		
	_			4 - Morphological Adaptation data in Remarks or on a s	ns <sup>1</sup> (Provide su	
				Problematic Hydrophytic Ve	actation <sup>1</sup> (Eval	ain)
•				I —		
				<sup>1</sup> Indicators of hydric soil and wet be present, unless disturbed or p		must
·	_			Definitions of Vegetation Strat	a:	
	_			Tree – Woody plants 3 in. (7.6 c diameter at breast height (DBH),		heigh
0.	_			Sapling/shrub – Woody plants		DBH
1	_			and greater than or equal to 3.28		
z		=Total Cover		Herb – All herbaceous (non-woo of size, and woody plants less th		ardles
Voody Vine Stratum (Plot size: 30'	)			Woody vines – All woody vines	greater than 3.	.28 ft
. Vitis riparia	5	Yes	FAC	height.	9.04.04	
				Hydrophytic		
	_			Vegetation		
	_			Present? Yes X	No	
	5	=Total Cover				

Depth	Matrix			x Featur				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-7	10YR 2/1	75	10YR 4/6	25	С	M	Loamy/Clayey	Prominent redox concentrations
7-16	10YR 3/1	80	10YR 4/3	20	С	M	Loamy/Clayey	Distinct redox concentrations
16-20	10YR 3/1	80	10YR 4/4	10	С	M	Loamy/Clayey	Distinct redox concentrations
			10YR 5/6	5	С	<u>M</u>	_	Prominent redox concentrations
		<u> </u>			<u> </u>	<u> </u>		
¹Type: C-C	oncentration, D=Deple	 etion RM	-Reduced Matrix M	 Mael	ked Sand		<sup>2</sup> l ocation: F	PL=Pore Lining, M=Matrix.
Black Hill Hydroge Stratified Depleted Thick Da Sandy M Sandy G Sandy R Stripped Dark Sui	(A1) pipedon (A2)		Polyvalue Belo  MLRA 149B  Thin Dark Surf.  High Chroma S  Loamy Mucky Loamy Gleyed Depleted Matri.  X Redox Dark Su Depleted Dark Redox Depress Marl (F10) (LR	) ace (S9) Sands (S Mineral Matrix ( x (F3) urface (F Surface sions (F6 R K, L)	(LRR R 611) (LRI (F1) (LRI F2) 66) (F7) 8)	, MLRA 1 R K, L) R K, L)	2 cm Mt Coast P 5 cm Mt Polyvalt Thin Da Iron-Mai Piedmoi Mesic S Red Par Very Sh Other (E	or Problematic Hydric Soils <sup>3</sup> :  uck (A10) (LRR K, L, MLRA 149B)  rairie Redox (A16) (LRR K, L, R)  ucky Peat or Peat (S3) (LRR K, L, R)  ue Below Surface (S8) (LRR K, L)  rk Surface (S9) (LRR K, L)  inganese Masses (F12) (LRR K, L, R)  int Floodplain Soils (F19) (MLRA 149B)  podic (TA6) (MLRA 144A, 145, 149B)  rent Material (F21)  allow Dark Surface (F22)  Explain in Remarks)
Type: _ Depth (ir	nches):						Hydric Soil Prese	nt? Yes X No
	m is revised from Noi 2015 Errata. (http://w							CS Field Indicators of Hydric Soils,

Project/Site: Toledo HP Redundancy Project	City/County: Maumee/Lucas Sampling Date: 06/25/2020
Applicant/Owner: NiSource	State: OH Sampling Point: 7
Investigator(s): B. Harrison/ A. O'Hare	Section, Township, Range: N/A
• • • • • • • • • • • • • • • • • • • •	relief (concave, convex, none): concave Slope %:
Subregion (LRR or MLRA): LRR L Lat: 41.56287	Long: -83.678594 Datum: NAD 83
Soil Map Unit Name: Toledo silty clay, 0-1% slopes	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year?	
Are Vegetation, Soil, or Hydrologysignificantly disturb	·
Are Vegetation, Soil, or Hydrologynaturally problems	atic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sam	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present?  Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: W-4
Remarks: (Explain alternative procedures here or in a separate report.)	
SP-7 is located in PEM portion of PEM/PFO W-4.	
LIVEROLOGY	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leaves (B	
High Water Table (A2)  Aquatic Fauna (B13)  And Respect to (B45)	Moss Trim Lines (B16)
Saturation (A3)  Marl Deposits (B15)	Dry-Season Water Table (C2)
X Water Marks (B1) Hydrogen Sulfide Odor (	i i i i i i i i i i i i i i i i i i i
X Sediment Deposits (B2)  Oxidized Rhizospheres of Property (Parkers of Parkers o	
Drift Deposits (B3) Presence of Reduced Iro	
Algal Mat or Crust (B4)  Recent Iron Reduction in This Much Curfox (O7)	. , , ,
Iron Deposits (B5) Thin Muck Surface (C7)  Other (F7)	
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remark	<del></del>
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (inches):	
Water Table Present? Yes No X Depth (inches):	
Saturation Present? Yes No X Depth (inches):	: Wetland Hydrology Present? Yes X No
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	avious inspections) if available:
Describe Necorded Data (stream gauge, monitoring well, aerial priotos, pre	inspections), if available.
Remarks:	
Indicators B1, B2, C8, C9, D2, D5 are met.	

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
1				Number of Dominant Species		
2				That Are OBL, FACW, or FAC:	3	(A)
3				Total Number of Dominant		
4.				Species Across All Strata:	3	_(B)
5.				Percent of Dominant Species		
S				That Are OBL, FACW, or FAC:	100.0%	(A/B)
				Prevalence Index worksheet:		
		=Total Cover		Total % Cover of:	Multiply by:	
Sapling/Shrub Stratum (Plot size: 15'	_)	.,		OBL species x		
. Fraxinus pennsylvanica	10	Yes	FACW		(2 =	
					(3 =	
3	_				( 4 =	
·					(5 =	
·					(A)	
·				Prevalence Index = B/A :		
				Hydrophytic Vegetation Indica		
	10	=Total Cover		1 - Rapid Test for Hydrophy	•	
Herb Stratum (Plot size:)				X 2 - Dominance Test is >50%	6	
. Carex vulpinoidea	40	Yes	FACW	3 - Prevalence Index is ≤3.0		
Asclepias incarnata	20	Yes	OBL	4 - Morphological Adaptation		
3. Scirpus cyperinus	15	No	OBL	data in Remarks or on a s	separate sneet	
. Carex crinita	5	No	OBL	Problematic Hydrophytic Ve	getation <sup>1</sup> (Explanation)	ain)
Trifolium repens	2	No	FACU	<sup>1</sup> Indicators of hydric soil and wet	tland hydrology	must
Trifolium arvense	1	No	UPL	be present, unless disturbed or p		
				Definitions of Vegetation Strat	ta:	
·				Tree – Woody plants 3 in. (7.6 c	m) or more in	
				diameter at breast height (DBH)	, regardless of	height.
0				Sapling/shrub – Woody plants	less than 3 in. I	DBH
1				and greater than or equal to 3.28	8 ft (1 m) tall.	
2				Herb – All herbaceous (non-woo	ody) plants, req	ardless
	83	=Total Cover		of size, and woody plants less th		
Noody Vine Stratum (Plot size: 30'	)			Woody vines – All woody vines	greater than 3.	28 ft in
·				height.	9	
2.						
J				Hydrophytic Vegetation		
				Present? Yes X	No	
ł		=Total Cover				

Profile Desc	ription: (Describe t	to the de				ator or co	onfirm the absence of	f indicators.)
Depth	Matrix			x Featur		. 2	<b>-</b> .	
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u>%</u>	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-2	10YR 3/1	100					Loamy/Clayey	
2-12	10YR 3/1	85	10YR 5/4	10	<u>C</u>	<u>M</u>	Loamy/Clayey	Distinct redox concentrations
			10YR 4/4	5	C	M		Distinct redox concentrations
12-20	10YR 3/1	70	10YR 5/6	25	С	M	Loamy/Clayey	Prominent redox concentrations
			10YR 6/4	5	С	M		Distinct redox concentrations
			-1					_
			-					_
<sup>1</sup> Type: C=Co	oncentration, D=Depl	etion. RM	=Reduced Matrix. N	IS=Mas	ked Sand	Grains.	<sup>2</sup> Location: P	L=Pore Lining, M=Matrix.
Hydric Soil I								or Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)		Polyvalue Belo	w Surfa	ce (S8) (	LRR R,	2 cm Mu	ick (A10) ( <b>LRR K, L, MLRA 149B</b> )
Histic Ep	pipedon (A2)		MLRA 149B	)			Coast Pr	rairie Redox (A16) ( <b>LRR K, L, R</b> )
Black His	stic (A3)		Thin Dark Surf	ace (S9)	(LRR R	, MLRA 1	<b>49B</b> ) 5 cm Mu	icky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)		High Chroma S					e Below Surface (S8) (LRR K, L)
	Layers (A5)		Loamy Mucky			R K, L)		k Surface (S9) ( <b>LRR K, L</b> )
	Below Dark Surface	(A11)	Loamy Gleyed		F2)			nganese Masses (F12) (LRR K, L, R)
	ark Surface (A12)		Depleted Matri		.0)			nt Floodplain Soils (F19) (MLRA 149B)
	lucky Mineral (S1)		X Redox Dark Su					oodic (TA6) (MLRA 144A, 145, 149B)
	edox (S5)		Depleted Dark Redox Depress					ent Material (F21) allow Dark Surface (F22)
	Matrix (S6)		Marl (F10) ( <b>LR</b>		5)			xplain in Remarks)
	face (S7)			, =/			0;;;(2	Apiair iii riomano)
	,							
<sup>3</sup> Indicators of	f hydrophytic vegetati	ion and w	etland hydrology mu	ıst be pr	esent, ur	nless dist	urbed or problematic.	
Restrictive I	_ayer (if observed):							
Type:								
Depth (ir	nches):						Hydric Soil Preser	nt? Yes X No
Remarks:								
								CS Field Indicators of Hydric Soils,
Version 7.0,	2015 Errata. (http://w	ww.nrcs.u	usda.gov/Internet/FS	SE_DOC	CUMENT	S/nrcs14	2p2_051293.docx)	

Project/Site: Toledo HP Redundancy Project	City/County: Maumee/Lucas Sampling Date: 06/25/2020
Applicant/Owner: NiSource	State: OH Sampling Point: 8
Investigator(s): B. Harrison/ A. O'Hare	Section, Township, Range: N/A
Landform (hillside, terrace, etc.): terrace Local	relief (concave, convex, none): concave Slope %:
Subregion (LRR or MLRA): LRR L Lat: 41.563062	Long: -83.678618 Datum: NAD 83
Soil Map Unit Name: Toledo silty clay, 0-1% slopes	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year?	
Are Vegetation, Soil, or Hydrologysignificantly distur	
Are Vegetation, Soil, or Hydrologynaturally problems	atic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sam	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present?  Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: W-4
Remarks: (Explain alternative procedures here or in a separate report.)	
SP-8 is located in PFO portion of PEM/PFO W-4.	
LIVERELEGY	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	X Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leaves (I	
High Water Table (A2)  Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)  Marl Deposits (B15)	Dry-Season Water Table (C2)
X Water Marks (B1)  Hydrogen Sulfide Odor (	
X Sediment Deposits (B2) Oxidized Rhizospheres o	
Drift Deposits (B3) Presence of Reduced Iro	
Algal Mat or Crust (B4)  Recent Iron Reduction in	. ,
Iron Deposits (B5) Thin Muck Surface (C7)	
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remar	· · · · · · · · · · · · · · · · ·
X Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (inches):	
Water Table Present? Yes No X Depth (inches):	
Saturation Present? Yes No X Depth (inches):	: Wetland Hydrology Present? Yes X No
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections) if available:
Describe Necorded Data (stream gauge, monitoring well, aerial priotos, pre	svious inspections), ii available.
Remarks:	
Indicators B1, B2, B8, B6, D2, D5 are met.	

ree Stratum (Plot size: 30' )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
. Acer saccharinum	70	Yes	FACW	Number of Deminent Charles		
Populus deltoides	20	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC:	8	(A)
·				Total Number of Dominant Species Across All Strata:	8	(B)
·				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0%	_ (A/E
·	_			Prevalence Index worksheet:		
	90	=Total Cover		Total % Cover of:	Multiply by:	
apling/Shrub Stratum (Plot size: 15'	)				1 =	
Fraxinus pennsylvanica	15	Yes	FACW	FACW species x 2	2 =	
Rhamnus cathartica	5	Yes	FAC	FAC species x 3	3 =	
Acer saccharinum	5	Yes	FACW	FACU species x 4	4 =	
-				UPL species x 5	5 =	
				Column Totals: (A	.)	(E
	_			Prevalence Index = B/A =		
				Hydrophytic Vegetation Indicate	ors:	
	25	=Total Cover		1 - Rapid Test for Hydrophytic	c Vegetation	
erb Stratum (Plot size: 5' )				X 2 - Dominance Test is >50%		
Carex vulpinoidea	10	Yes	OBL	3 - Prevalence Index is ≤3.0 <sup>1</sup>		
Toxicodendron radicans	5	Yes	FAC	C 4 - Morphological Adaptations <sup>1</sup> (Providata in Remarks or on a separate s		
				Problematic Hydrophytic Veg	etation <sup>1</sup> (Expl	ain)
				<sup>1</sup> Indicators of hydric soil and wetla be present, unless disturbed or pr		must
				Definitions of Vegetation Strata	:	
				Tree – Woody plants 3 in. (7.6 cm diameter at breast height (DBH), I		heigh
D L				Sapling/shrub – Woody plants le and greater than or equal to 3.28		DBH
2.	15	=Total Cover		Herb – All herbaceous (non-wood of size, and woody plants less that		
Voody Vine Stratum (Plot size:30'	.)			Woody vines – All woody vines g	reater than 3	.28 ft
Vitis riparia	10	Yes	FAC	height.		
·	_			Hydrophytic		
•				Vegetation		
· .				Present? Yes X	No	
	10	=Total Cover				

	-	o the de	-			ator or co	onfirm the absence of	indicators.)
Depth	Matrix			x Featur		1 2	<del>-</del> .	Б
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-5	10YR 3/1	100						
5-18	10YR 3/1	95	10YR 4/3	5	С	M	Loamy/Clayey	Distinct redox concentrations
								_
¹Type: C=Co	ncentration, D=Deple	etion RM	 1=Reduced Matrix M	MS=Mas	ked San	d Grains	<sup>2</sup> Location: PL	=Pore Lining, M=Matrix.
Hydric Soil In		, , , , , , , , , , , , , , , , , , ,	. Hoddod mann, n		nou oun	<u> </u>		Problematic Hydric Soils <sup>3</sup> :
Histosol (	(A1)		Polyvalue Belo	w Surfa	ce (S8) (	LRR R,		k (A10) ( <b>LRR K, L, MLRA 149B</b> )
Histic Epi	pedon (A2)		MLRA 149B	)			Coast Pra	irie Redox (A16) ( <b>LRR K, L, R</b> )
Black His	tic (A3)		Thin Dark Surf	ace (S9)	(LRR R	, MLRA 1	<b>49B</b> ) 5 cm Muc	ky Peat or Peat (S3) (LRR K, L, R)
Hydrogen	Sulfide (A4)		High Chroma S				Polyvalue	Below Surface (S8) (LRR K, L)
	Layers (A5)		Loamy Mucky			R K, L)		Surface (S9) (LRR K, L)
	Below Dark Surface	(A11)	Loamy Gleyed		F2)			ganese Masses (F12) (LRR K, L, R)
	rk Surface (A12)		Depleted Matri		-0)			Floodplain Soils (F19) (MLRA 149B)
	ucky Mineral (S1)		X Redox Dark Su					odic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
Sandy Re	eyed Matrix (S4)		Depleted Dark Redox Depress					nt Material (F21) Iow Dark Surface (F22)
	Matrix (S6)		Marl (F10) (LR		0)			plain in Remarks)
Dark Surf	, ,			, =,				plant in Hemanie)
	,							
<sup>3</sup> Indicators of	hydrophytic vegetati	on and w	etland hydrology mu	ıst be pr	resent, u	nless dist	urbed or problematic.	
Restrictive L	ayer (if observed):							
Type:								
Depth (in	ches):						Hydric Soil Present	? Yes X No
								S Field Indicators of Hydric Soils,
version 7.0, 2	2015 Errata. (http://w	ww.iiics.	usua.gov/internet/FS	שב_ח∩(	JUIVI⊏IN I	J/IIIUS 142	_μz_υυτ293.00CX)	

Project/Site: Toledo HP Redundancy Project	City/County: Maumee/Lucas Sampling Date: 06/25/2020					
Applicant/Owner: NiSource	State: OH Sampling Point: 9					
Investigator(s): B. Harrison/ A. O'Hare	Section, Township, Range: N/A					
	relief (concave, convex, none): concave Slope %:					
Subregion (LRR or MLRA): LRR L Lat: 41.563226	Long: -83.677662 Datum: NAD 83					
Soil Map Unit Name: Toledo silty clay, 0-1% slopes	NWI classification: N/A					
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)					
Are Vegetation, Soil, or Hydrology significantly distur	<u> </u>					
Are Vegetation, Soil, or Hydrology naturally problems						
SUMMARY OF FINDINGS – Attach site map showing sam						
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area					
Hydrophytic Vegetation Present?  Yes X No Yes X	within a Wetland? Yes X No					
Wetland Hydrology Present?  Yes X No	If yes, optional Wetland Site ID: W-5					
SP-9 is located in PEM W-5.						
HYDROLOGY						
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)					
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)					
Surface Water (A1) Water-Stained Leaves (I	B9) X Drainage Patterns (B10)					
High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)					
Saturation (A3) — Marl Deposits (B15)	Dry-Season Water Table (C2)					
Water Marks (B1) Hydrogen Sulfide Odor (						
X Sediment Deposits (B2) Oxidized Rhizospheres of						
Drift Deposits (B3) Presence of Reduced Iro						
Algal Mat or Crust (B4)  Recent Iron Reduction in	· / · · · · · · · · · · · · · · · · · ·					
Iron Deposits (B5)  Thin Muck Surface (C7)	<del></del>					
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remar						
X Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)					
Field Observations:						
Surface Water Present? Yes No X Depth (inches):						
Water Table Present? Yes No X Depth (inches):						
Saturation Present? Yes No X Depth (inches):	: Wetland Hydrology Present? Yes X No					
(includes capillary fringe)						
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:					
Remarks: Indicators B2, B8, B10, C8, C9, D5 are met.						

VEGETATION – Use scientific names of p			1 0 1	Sampling	g Point: 9
Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test workshee	t:
1	_			Number of Dominant Species	S
2	_			That Are OBL, FACW, or FA	
3.	_			Total Number of Dominant	
4.	_			Species Across All Strata:	1 (B)
5				Percent of Dominant Species	•
6.				That Are OBL, FACW, or FA	
7.				Prevalence Index workshee	 et:
		=Total Cover		Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: 15'		-		OBL species	x 1 =
1.	_			FACW species	·
2.				FAC species	
3.				FACU species	
4				UPL species	<u></u>
5.				Column Totals:	
				Prevalence Index = B	
7.	_			Hydrophytic Vegetation Ind	
<i>'</i> .		=Total Cover			
Harb Charture (District		= Total Gover		X 1 - Rapid Test for Hydron	-
Herb Stratum (Plot size: 5' )		.,	0.01	X 2 - Dominance Test is >5	
1. Asclepias incarnata	70	Yes	OBL	3 - Prevalence Index is ≤	
2		<del></del>		4 - Morphological Adapta data in Remarks or or	
3	_				
4				Problematic Hydrophytic	Vegetation <sup>1</sup> (Explain)
5. 6.				<sup>1</sup> Indicators of hydric soil and be present, unless disturbed	
7.	_			Definitions of Vegetation S	•
8.					
9.				Tree – Woody plants 3 in. (7 diameter at breast height (DE	
10.					
				Sapling/shrub – Woody plan and greater than or equal to	
11.		· ——			
12.	70	=Total Cover		<b>Herb</b> – All herbaceous (non-of size, and woody plants les	
Waadu Vina Chrahum (Plat sina)		= Total Gover		of Size, and woody plants les	S (fidi) 3.20 ft (di).
Woody Vine Stratum (Plot size: 30'	_)			Woody vines – All woody vin	nes greater than 3.28 ft ir
1.				height.	
2	_			Hydrophytic	
3	_			Vegetation	
4	_			Present? Yes X	No
		=Total Cover			
Remarks: (Include photo numbers here or on a se Dominance test is met. Photograph C-7.	eparate sheet.)				

	cription: (Describe t	o the de	=			ator or co	onfirm the absence o	f indicators.)
Depth	Matrix			(Featur		. 2	_	
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-1	10YR 3/1	90	10YR 5/6	10	<u>C</u>	M	Loamy/Clayey	Prominent redox concentrations
1-16	10YR 3/1	95	10YR 4/4	5	С	M	Loamy/Clayey	Distinct redox concentrations
								_
								_
<sup>1</sup> Type: C=Co	oncentration, D=Depl	etion, RN	M=Reduced Matrix, M	IS=Mas	ked Sand	d Grains.	<sup>2</sup> Location: P	L=Pore Lining, M=Matrix.
Hydric Soil	Indicators:						Indicators fo	or Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)		Polyvalue Belo	w Surfa	ce (S8) (	LRR R,	2 cm Mu	ick (A10) ( <b>LRR K, L, MLRA 149B</b> )
Histic Ep	pipedon (A2)		MLRA 149B)	)			Coast Pr	rairie Redox (A16) ( <b>LRR K, L, R</b> )
Black Hi			Thin Dark Surfa				· —	icky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)		High Chroma S					e Below Surface (S8) (LRR K, L)
	d Layers (A5)	(444)	Loamy Mucky I			R K, L)		k Surface (S9) (LRR K, L)
	d Below Dark Surface ark Surface (A12)	(A11)	Loamy Gleyed Depleted Matrix		F2)			nganese Masses (F12) ( <b>LRR K, L, R</b> )
	lucky Mineral (S1)		X Redox Dark Su		·6)			nt Floodplain Soils (F19) ( <b>MLRA 149B</b> ) podic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
	ileyed Matrix (S4)		Depleted Dark					ent Material (F21)
	ledox (S5)		Redox Depress					allow Dark Surface (F22)
	Matrix (S6)		Marl (F10) ( <b>LR</b>					xplain in Remarks)
Dark Su	rface (S7)						<del></del>	
	f hydrophytic vegetati	on and v	vetland hydrology mu	ist be pr	esent, ur	nless dist	urbed or problematic.	
	Layer (if observed):							
Type:								
Depth (ir	nches):						Hydric Soil Preser	nt? Yes <u>X</u> No
Remarks:								
	m is revised from Noi 2015 Errata. (http://w							CS Field Indicators of Hydric Soils,
version 7.0,	2015 Errala. (IIIIp.//w	ww.mcs	usua.gov/internet/F3	ב_טטנ	OIVIEINI	3/1110514/	2p2_051295.d00x)	

Project/Site: Toledo HP Redundancy Project	City/County: Maumee/Lucas Sampling Date: 06/25/2020						
Applicant/Owner: NiSource	State: OH Sampling Point: 10						
Investigator(s): B. Harrison/ A. O'Hare	Section, Township, Range: N/A						
	relief (concave, convex, none): convex Slope %:						
Subregion (LRR or MLRA): LRR L Lat: 41.563166	Long: -83.678132 Datum: NAD 83						
Soil Map Unit Name: Toledo silty clay, 0-1% slopes	NWI classification: N/A						
Are climatic / hydrologic conditions on the site typical for this time of year?							
Are Vegetation, Soil, or Hydrologysignificantly distur							
Are Vegetation, Soil, or Hydrologynaturally problems	atic? (If needed, explain any answers in Remarks.)						
SUMMARY OF FINDINGS – Attach site map showing sam	pling point locations, transects, important features, etc.						
Hydrophytic Vegetation Present? Yes No X	Is the Sampled Area						
Hydric Soil Present?  Yes X No	within a Wetland? Yes No_X_						
Wetland Hydrology Present? Yes No X	If yes, optional Wetland Site ID:						
Remarks: (Explain alternative procedures here or in a separate report.)							
SP-10 is located in upland adjacent to PFO W-3.							
HYDROLOGY							
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)						
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)						
Surface Water (A1) Water-Stained Leaves (I							
High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)						
Saturation (A3)Marl Deposits (B15)	Dry-Season Water Table (C2)						
Water Marks (B1)  Hydrogen Sulfide Odor (							
Sediment Deposits (B2) Oxidized Rhizospheres of the control of the							
Drift Deposits (B3) Presence of Reduced Iro							
Algal Mat or Crust (B4)  Recent Iron Reduction in	. , , , , , , , , , , , , , , , , , , ,						
Iron Deposits (B5)  Thin Muck Surface (C7)	Shallow Aquitard (D3)						
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remar							
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)						
Field Observations:							
Surface Water Present? Yes No _X Depth (inches):							
Water Table Present? Yes No X Depth (inches):							
Saturation Present? Yes No X Depth (inches):	: Wetland Hydrology Present? Yes No _X						
(includes capillary fringe)							
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:						
Remarks:							
No indicators met.							
1							

**VEGETATION** – Use scientific names of plants. Sampling Point: 10 Absolute Dominant Indicator Tree Stratum (Plot size: 30' ) Status **Dominance Test worksheet:** % Cover Species? Acer saccharinum 70 **FACW Number of Dominant Species** 2. That Are OBL, FACW, or FAC: 3 (A) 3. Total Number of Dominant (B) 4. Species Across All Strata: 6 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 50.0% (A/B) Prevalence Index worksheet: 70 =Total Cover Total % Cover of: Multiply by: Sapling/Shrub Stratum (Plot size: 15' OBL species x 1 = Rhamnus cathartica 30 FAC **FACW** species 70 x 2 = 140 2. Lonicera tatarica 60 Yes **FACU** FAC species 40 x 3 = 120 3. FACU species 110 x 4 = 440 4. **UPL** species 0 x 5 = 0 5. Column Totals: 220 700 Prevalence Index = B/A =3.18 6. **Hydrophytic Vegetation Indicators:** 7. 90 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: 2 - Dominance Test is >50% Rubus allegheniensis 10 Yes **FACU** 3 - Prevalence Index is ≤3.01 5 2. Toxicodendron radicans FAC 4 - Morphological Adaptations (Provide supporting Yes data in Remarks or on a separate sheet) 3. 4. Problematic Hydrophytic Vegetation<sup>1</sup> (Explain) 5. <sup>1</sup>Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic. 7. **Definitions of Vegetation Strata:** 8. Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless 15 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines - All woody vines greater than 3.28 ft in 40 **FACU** Parthenocissus quinquefolia Yes height. 5 2. Vitis riparia **FAC** Hydrophytic 3. Vegetation Yes \_\_ 4. Present? No X 45 =Total Cover Remarks: (Include photo numbers here or on a separate sheet.) No test is met. Photograph C-10.

Profile Desc Depth	cription: (Describe t Matrix	to the de	-	ı <b>ment t</b> l < Featur		ator or co	onfirm the absence of	f indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-8	10YR 3/1	100					Loamy/Clayey	
8-16	10YR 3/1	75	10YR 4/3	20	С	М	Loamy/Clayey	Distinct redox concentrations
			10YR 4/6	5		M		Prominent redox concentrations
-								
	oncentration, D=Depl	etion, RN	M=Reduced Matrix, M	IS=Mas	ked San	d Grains.		L=Pore Lining, M=Matrix.
Hydric Soil Histosol			Polyvalue Belo	w Surfa	00 (89) (	I DD D		or Problematic Hydric Soils <sup>3</sup> : ck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)		MLRA 149B)		ce (30) (	Lnn n,		rairie Redox (A16) (LRR K, L, R)
	istic (A3)		Thin Dark Surfa		(LRR R	, MLRA 1		cky Peat or Peat (S3) ( <b>LRR K, L, R</b> )
—— Hydroge	en Sulfide (A4)		High Chroma S					e Below Surface (S8) ( <b>LRR K, L</b> )
Stratified	d Layers (A5)		Loamy Mucky I	Mineral	(F1) ( <b>LR</b>	R K, L)	Thin Dar	k Surface (S9) ( <b>LRR K, L</b> )
	d Below Dark Surface	e (A11)	Loamy Gleyed	Matrix (	F2)		Iron-Mar	nganese Masses (F12) ( <b>LRR K, L, R</b> )
	ark Surface (A12)		Depleted Matrix					nt Floodplain Soils (F19) ( <b>MLRA 149B</b> )
	Mucky Mineral (S1)		X Redox Dark Su					podic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
	Gleyed Matrix (S4)		Depleted Dark					ent Material (F21)
	Redox (S5) I Matrix (S6)		Redox Depress Marl (F10) (LR	•	0)			allow Dark Surface (F22) xplain in Remarks)
	rface (S7)		Wan (1 10) ( <b>EN</b>	ii ix, L)			Other (E	xpiaiii iii Heinaiks)
	(21)							
			vetland hydrology mu	ıst be pı	resent, u	nless dist	urbed or problematic.	
	Layer (if observed):							
Type:								
Depth (i	nches):						Hydric Soil Preser	nt? Yes X No
Remarks:							001 1 1 1 1 1 1 1 1 1 1	20 5: 111 1:
	rm is revised from No 2015 Errata. (http://w							CS Field Indicators of Hydric Soils,
V C101011 7.0,	2010 Errata: (http://w	, , , , , , , , , , , , , , , , , , ,	dodd.gov/internet/1	) <u></u> DO(	JOINEIVI	0/11/03 1 4/	2p2_001200.d00x)	

Project/Site: Toledo HP Redundancy Project	City/County: Maumee/Lucas Sampling Date: 06/25/2020					
Applicant/Owner: NiSource	State: OH Sampling Point: 11					
Investigator(s): B. Harrison/ A. O'Hare	Section, Township, Range: N/A					
	relief (concave, convex, none): convex Slope %:					
Subregion (LRR or MLRA): LRR L Lat: 41.563318	Long: -83.677257 Datum: NAD 83					
Soil Map Unit Name: Toledo silty clay, 0-1% slopes	NWI classification: N/A					
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)					
Are Vegetation, Soil, or Hydrology significantly distur						
Are Vegetation, Soil, or Hydrology naturally problems						
SUMMARY OF FINDINGS – Attach site map showing sam						
Hydrophytic Vegetation Present? Yes No X	Is the Sampled Area					
Hydric Soil Present?  Yes X No	within a Wetland? Yes No X					
Wetland Hydrology Present? Yes No X	If yes, optional Wetland Site ID:					
SP-11 is located in upland adjacent to PEM W-5.						
HYDROLOGY						
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)					
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)					
Surface Water (A1) Water-Stained Leaves (	B9) Drainage Patterns (B10)					
High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)					
Saturation (A3) — Marl Deposits (B15)	Dry-Season Water Table (C2)					
Water Marks (B1) Hydrogen Sulfide Odor (						
Sediment Deposits (B2)  Oxidized Rhizospheres						
Drift Deposits (B3) Presence of Reduced In						
Algal Mat or Crust (B4)  Recent Iron Reduction in	· · · · · · · · · · · · · · · · · · ·					
Iron Deposits (B5) Thin Muck Surface (C7)	Shallow Aquitard (D3)					
Inundation Visible on Aerial Imagery (B7)Other (Explain in Remar						
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)					
Field Observations:						
Surface Water Present? Yes No X Depth (inches):						
Water Table Present? Yes No X Depth (inches):						
Saturation Present? Yes No X Depth (inches):	: Wetland Hydrology Present? Yes No _X					
(includes capillary fringe)						
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:					
Remarks: No indicators met.						

**VEGETATION** – Use scientific names of plants. Sampling Point: 11 Dominant Absolute Indicator % Cover\_ <u>Tree Stratum</u> (Plot size: 30') **Dominance Test worksheet:** Species? Status 1. **Number of Dominant Species** 2. That Are OBL, FACW, or FAC: 2 (A) 3. Total Number of Dominant 4. Species Across All Strata: (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 50.0% (A/B) Prevalence Index worksheet: =Total Cover Total % Cover of: Multiply by: Sapling/Shrub Stratum (Plot size: 15' OBL species x 1 = Rhamnus cathartica 20 FAC **FACW** species 20 x 2 = 2. Ribes cynosbati 10 Yes **FACU** FAC species 45 x 3 = 135 3. FACU species 60 x 4 = 240 4. **UPL** species 0 x 5 = 0 5. Column Totals: 125 (A) 415 Prevalence Index = B/A = 3.32 6. **Hydrophytic Vegetation Indicators:** 7. 30 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: 2 - Dominance Test is >50% Schedonorus arundinaceus 30 Yes **FACU** 3 - Prevalence Index is ≤3.01 2. 20 FAC 4 - Morphological Adaptations (Provide supporting Toxicodendron radicans Yes data in Remarks or on a separate sheet) 3. Bidens frondosa 10 No **FACW** 4. Rubus allegheniensis 10 No **FACU** Problematic Hydrophytic Vegetation<sup>1</sup> (Explain) 5. Carex shortiana 10 No **FACW** <sup>1</sup>Indicators of hydric soil and wetland hydrology must Calystegia sepium 5 6. No FAC be present, unless disturbed or problematic. 5 7. Alliaria petiolata No **FACU Definitions of Vegetation Strata:** 5 8. Erigeron annuus **FACU** No Tree - Woody plants 3 in. (7.6 cm) or more in 9. diameter at breast height (DBH), regardless of height. 10. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless 95 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines - All woody vines greater than 3.28 ft in 1. height. Hydrophytic Vegetation Yes \_\_\_ Present? No X =Total Cover Remarks: (Include photo numbers here or on a separate sheet.) No test is met. Photograph C-11.

Profile Desc	cription: (Describe t	o the de	pth needed to docu	ıment tl	ne indica	ator or co	onfirm the absence of indicators.)		
Depth	Matrix			r Featur					
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks		
0-3	10YR 3/1	90	10YR 4/3	10	С	<u>M</u>	Loamy/Clayey Distinct redox concentrations		
3-7	10YR 3/1	95	10YR 4/4	25	С	M	Loamy/Clayey Distinct redox concentrations		
7-12	10YR 3/1	80	10YR 4/3	20	С	M	Loamy/Clayey Distinct redox concentrations		
							-		
¹Type: C=C	oncentration, D=Deple	etion, RN	/=Reduced Matrix, M	IS=Masl	ked Sand	d Grains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.		
Hydric Soil	Indicators:						Indicators for Problematic Hydric Soils <sup>3</sup> :		
Histosol	(A1)		Polyvalue Belo	w Surfac	ce (S8) (	LRR R,	2 cm Muck (A10) (LRR K, L, MLRA 149B)		
Histic Ep	oipedon (A2)		MLRA 149B)	)			Coast Prairie Redox (A16) (LRR K, L, R)		
Black Hi	stic (A3)		Thin Dark Surfa	ace (S9)	(LRR R	, MLRA 1	149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)		
Hydroge	n Sulfide (A4)		High Chroma S	ands (S	311) ( <b>LRI</b>	R K, L)	Polyvalue Below Surface (S8) (LRR K, L)		
Stratified	d Layers (A5)		Loamy Mucky I	Mineral (	(F1) ( <b>LR</b> I	R K, L)	Thin Dark Surface (S9) (LRR K, L)		
Depleted	d Below Dark Surface	(A11)	Loamy Gleyed	Matrix (	F2)		Iron-Manganese Masses (F12) (LRR K, L, R)		
Thick Da	ark Surface (A12)		Depleted Matrix	x (F3)			Piedmont Floodplain Soils (F19) (MLRA 149B		
Sandy M	lucky Mineral (S1)		X Redox Dark Su	rface (F	6)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	aleyed Matrix (S4)		Depleted Dark				Red Parent Material (F21)		
	ledox (S5)		? Redox Depress				Very Shallow Dark Surface (F22)		
	Matrix (S6)		Marl (F10) ( <b>LR</b>		- /		Other (Explain in Remarks)		
	rface (S7)		(. 13) (=11	, _/					
31	f las salva va las ski a s s a a a a a k		and a sed by selection of the second			-11:-4			
	Layer (if observed):	on and v	veliand hydrology mu	ist be pr	eseni, ur	iless dist	turbed or problematic.		
Type:	compac	t soil							
Depth (in	nches):	12					Hydric Soil Present? Yes X No		
Remarks:									
							2.0 to include the NRCS Field Indicators of Hydric Soils,		
Version 7.0,	2015 Errata. (http://w	ww.nrcs	usda.gov/Internet/FS	SE_DOC	CUMENT	S/nrcs14	2p2_051293.docx)		

Project/Site: Toledo HP Redundancy Project	City/County: Maumee/Lucas Sampling Date: 06/25/2020						
Applicant/Owner: NiSource	State: OH Sampling Point: 12						
Investigator(s): B. Harrison/ A. O'Hare	Section, Township, Range: N/A						
	relief (concave, convex, none): convex Slope %:						
Subregion (LRR or MLRA): LRR L Lat: 41.563735	Long: -83.676131 Datum: NAD 83						
Soil Map Unit Name: Toledo silty clay, 0-1% slopes	NWI classification: N/A						
Are climatic / hydrologic conditions on the site typical for this time of year?							
Are Vegetation, Soil, or Hydrologysignificantly distur							
Are Vegetation, Soil, or Hydrologynaturally problems	atic? (If needed, explain any answers in Remarks.)						
SUMMARY OF FINDINGS – Attach site map showing sam	pling point locations, transects, important features, etc.						
Hydrophytic Vegetation Present? Yes No X	Is the Sampled Area						
Hydric Soil Present?  Yes X No	within a Wetland? Yes No_X_						
Wetland Hydrology Present? Yes No X	If yes, optional Wetland Site ID:						
Remarks: (Explain alternative procedures here or in a separate report.)							
SP-12 is located in upland adjacent to PEM W-6.							
LIVEROLOGY							
HYDROLOGY							
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)						
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)						
Surface Water (A1) Water-Stained Leaves (I							
High Water Table (A2)  Aquatic Fauna (B13)  And Banasite (B45)	Moss Trim Lines (B16)						
Saturation (A3)  Marl Deposits (B15)	Dry-Season Water Table (C2)						
Water Marks (B1)  Hydrogen Sulfide Odor (							
Sediment Deposits (B2)  Oxidized Rhizospheres of Proposition (B2)							
Drift Deposits (B3) Presence of Reduced In							
Algal Mat or Crust (B4)  Recent Iron Reduction in This Made Outlook (CT)	• • • • • • • • • • • • • • • • • • • •						
Iron Deposits (B5)  Thin Muck Surface (C7)	Shallow Aquitard (D3)						
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remar	<u> </u>						
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)						
Field Observations:							
Surface Water Present? Yes No X Depth (inches):							
Water Table Present? Yes No X Depth (inches):							
Saturation Present? Yes No X Depth (inches):	:   Wetland Hydrology Present? Yes No _X						
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	avious inspections) if available:						
Describe Necorded Data (stream gauge, monitoring well, aerial photos, pre	inspections), if available.						
Remarks:							
No indicators met.							

**VEGETATION** – Use scientific names of plants. Sampling Point: 12 Dominant Absolute Indicator % Cover\_ <u>Tree Stratum</u> (Plot size: 30') Species? **Dominance Test worksheet:** Status **Number of Dominant Species** 2. That Are OBL, FACW, or FAC: (A) 3. Total Number of Dominant 4. Species Across All Strata: 2 (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 50.0% (A/B) Prevalence Index worksheet: =Total Cover Total % Cover of: Multiply by: Sapling/Shrub Stratum (Plot size: 15' OBL species x 1 = 15 1. Rhamnus cathartica **FACW** species 0 x 2 = 2. FAC species 25 x 3 = 75 x 4 = 400 3. FACU species 100 0 4. **UPL** species x 5 = 0 5. Column Totals: 125 (A) 475 Prevalence Index = B/A = 3.80 6. **Hydrophytic Vegetation Indicators:** 7. 15 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: 2 - Dominance Test is >50% 1. Schedonorus arundinaceus 70 Yes **FACU** 3 - Prevalence Index is ≤3.01 10 2. No **FACU** 4 - Morphological Adaptations (Provide supporting Poa pratensis data in Remarks or on a separate sheet) 3. Toxicodendron radicans 10 No FAC 4. Dipsacus fullonum 10 No **FACU** Problematic Hydrophytic Vegetation<sup>1</sup> (Explain) 5 5. Medicago lupulina No **FACU** <sup>1</sup>Indicators of hydric soil and wetland hydrology must FACU 6. Oxalis stricta No be present, unless disturbed or problematic. 7. **Definitions of Vegetation Strata:** 8. Tree - Woody plants 3 in. (7.6 cm) or more in 9. diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless 110 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines - All woody vines greater than 3.28 ft in 1. height. Hydrophytic Vegetation Yes \_\_\_ Present? No X =Total Cover Remarks: (Include photo numbers here or on a separate sheet.) No test is met. Photograph C-12.

Profile Desc Depth	cription: (Describe to Matrix	to the de	-	ı <b>ment tl</b> < Featur		ator or co	onfirm the absence of inc	dicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-2	10YR 3/2	100					Loamy/Clayey	
2-8	10YR 3/1	90	10YR 4/3	10	С	М	Loamy/Clayey	Distinct redox concentrations
8-20	10YR 3/1	75	10YR 4/4	25	C	M	Loamy/Clayey	Distinct redox concentrations
1Type: C-C	oncentration, D=Depl	otion DA	A-Poducod Matrix M		kod San	d Grains	2l ocation: PL -P	Pore Lining, M=Matrix.
Hydric Soil		ellon, Ki	i=Reduced Matrix, iv	S=IVIASI	keu Sand	d Grains.		roblematic Hydric Soils <sup>3</sup> :
Histosol			Polyvalue Belo	w Surfa	ce (S8) (	LRR R,		A10) ( <b>LRR K, L, MLRA 149B</b> )
Histic Ep	pipedon (A2)		MLRA 149B)	1			Coast Prairie	e Redox (A16) (LRR K, L, R)
	stic (A3)		Thin Dark Surfa					Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)		High Chroma S					elow Surface (S8) (LRR K, L)
	d Layers (A5)	. (111)	Loamy Mucky I			HK, L)		urface (S9) (LRR K, L)
	d Below Dark Surface ark Surface (A12)	e (A11)	Loamy Gleyed Depleted Matrix		F2)			nese Masses (F12) ( <b>LRR K, L, R</b> ) oodplain Soils (F19) ( <b>MLRA 149B</b> )
	lucky Mineral (S1)		X Redox Dark Su		<del>-</del> 6)			c (TA6) (MLRA 144A, 145, 149B)
	ileyed Matrix (S4)		Depleted Dark					Material (F21)
	ledox (S5)		Redox Depress					v Dark Surface (F22)
Stripped	Matrix (S6)		Marl (F10) ( <b>LR</b> l	RK, L)			Other (Expla	in in Remarks)
Dark Su	rface (S7)							
<sup>3</sup> Indicators o	f hydrophytic vegetat	ion and v	etland hydrology mu	ıst he nı	resent III	nless dist	urbed or problematic.	
	Layer (if observed):		ionana nyaronogy ma	ос оо р.			and an producting and	
Type:								
Depth (ii	nches):						Hydric Soil Present?	Yes X No
Remarks:								
	m is revised from No 2015 Errata. (http://w							Field Indicators of Hydric Soils,
version 7.0,	2015 Erraia. (niip.//w	ww.nrcs	usua.gov/internet/F3	,E_DOC	OIVIEINI	5/110514	2p2_051293.docx)	

Project/Site: Toledo HP Redundancy Project	City/County: Maumee/Lucas Sampling Date: 06/25/2020
Applicant/Owner: NiSource	State: OH Sampling Point: 13
Investigator(s): B. Harrison/ A. O'Hare	Section, Township, Range: N/A
Landform (hillside, terrace, etc.): terrace Local	relief (concave, convex, none): concave Slope %:
Subregion (LRR or MLRA): LRR L Lat: 41.563672	Long: -83.676397 Datum: NAD 83
Soil Map Unit Name: Toledo silty clay, 0-1% slopes	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturb	bed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology naturally problems	
SUMMARY OF FINDINGS – Attach site map showing sam	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present?  Yes X No	If yes, optional Wetland Site ID: W-6
SP-13 is located in PEM W-6.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leaves (E	B9) X Drainage Patterns (B10)
High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3) — Marl Deposits (B15)	Dry-Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide Odor (	
X Sediment Deposits (B2) Oxidized Rhizospheres o	
Drift Deposits (B3) Presence of Reduced Iro	
Algal Mat or Crust (B4)  Recent Iron Reduction in This Much Curfox (O7)	
Iron Deposits (B5)  Thin Muck Surface (C7)  Other (Fynlein in Person	
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remark V. Sparsely Vegetated Concesses Surface (B9)	'ks) Microtopographic Relief (D4) X FAC-Neutral Test (D5)
X Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (inches):	
Water Table Present? Yes No X Depth (inches):	
Saturation Present? Yes No X Depth (inches): (includes capillary fringe)	: Wetland Hydrology Present? Yes X No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections) if available:
Describe recorded Data (stream gauge, monitoring well, acrial photos, pre	vious inspections), ii available.
Remarks:	
Indicators B2, B8, B10, C8, C9, D2, D5 are met.	

Free Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
· <u> </u>		<del></del>		Dominance rest worksheet.		
2.				Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
j.				Total Number of Deminers		
i.				Total Number of Dominant Species Across All Strata:	2	(B)
5.				Percent of Dominant Species		
S	_			That Are OBL, FACW, or FAC:	100.0%	_ (A/B
, 				Prevalence Index worksheet:		
		=Total Cover		Total % Cover of:	Multiply by:	
Sapling/Shrub Stratum (Plot size: 15'	)			OBL species	x 1 =	
	_			FACW species	x 2 =	
·	_			FAC species	x 3 =	
·				FACU species	x 4 =	
·				UPL species	x 5 =	
·				Column Totals:	(A)	(E
	_			Prevalence Index = B/A	=	
·	_			Hydrophytic Vegetation Indica	ators:	
		=Total Cover		1 - Rapid Test for Hydrophy	tic Vegetation	
lerb Stratum (Plot size:)				X 2 - Dominance Test is >509	%	
. Bidens frondosa	45	Yes	FACW	3 - Prevalence Index is ≤3.0	D <sup>1</sup>	
. Scirpus atrovirens	30	Yes	OBL	4 - Morphological Adaptatio		
. Asclepias incarnata	10	No	OBL	data in Remarks or on a	separate sheet	)
. Scirpus cyperinus	10	No	OBL	Problematic Hydrophytic Ve	egetation <sup>1</sup> (Expl	ain)
i				<sup>1</sup> Indicators of hydric soil and we be present, unless disturbed or		must
7.				Definitions of Vegetation Stra	•	
3.				Tree – Woody plants 3 in. (7.6 diameter at breast height (DBH)		heigh
0.						
1				Sapling/shrub – Woody plants and greater than or equal to 3.2		חסח
2		T-4-1 0		Herb – All herbaceous (non-wo		
	95	=Total Cover		of size, and woody plants less t	nan 3.28 ft tall.	
Noody Vine Stratum (Plot size: 30'	.)	<u> </u>		Woody vines – All woody vines height.	greater than 3.	.28 ft i
2	_					
3.	_			Hydrophytic Vegetation		
				Present? Yes X	No	
i.						

Profile Desc	ription: (Describe t	o the de	pth needed to docu	ment th	ne indica	ator or co	onfirm the absence of indicators.)			
Depth	Matrix			Featur						
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks			
0-4	10YR 3/1	95	10YR 4/3	5	С	<u>M</u>	Loamy/Clayey Distinct redox concentrations			
4-8	10YR 3/1	90	10YR 4/6	10	С	M	Loamy/Clayey Prominent redox concentrations			
8-16	10YR 3/1	85	10YR 4/3	15	С	M	Loamy/Clayey Distinct redox concentrations			
<sup>1</sup> Type: C=Co	oncentration, D=Depl	etion, RN	M=Reduced Matrix, M	IS=Masl	ked Sand	d Grains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.			
Hydric Soil I							Indicators for Problematic Hydric Soils <sup>3</sup> :			
Histosol			Polyvalue Belov		ce (S8) (	LRR R,	2 cm Muck (A10) ( <b>LRR K, L, MLRA 149B</b> )			
	pipedon (A2)		MLRA 149B)		// DD D		Coast Prairie Redox (A16) (LRR K, L, R)			
Black Hi	` '		Thin Dark Surfa							
	n Sulfide (A4)		High Chroma S				Polyvalue Below Surface (S8) (LRR K, L)			
	l Layers (A5) I Below Dark Surface	(A11)	Loamy Mucky N Loamy Gleyed			n K, L)	Thin Dark Surface (S9) ( <b>LRR K, L</b> ) Iron-Manganese Masses (F12) ( <b>LRR K, L, R</b> )			
	ark Surface (A12)	(A11)	Depleted Matrix		F2)		Piedmont Floodplain Soils (F19) (MLRA 149B)			
	lucky Mineral (S1)		X Redox Dark Su		·6)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
	ileyed Matrix (S4)		Depleted Dark				Red Parent Material (F21)			
	edox (S5)		Redox Depress				Very Shallow Dark Surface (F22)			
	Matrix (S6)		Marl (F10) (LRI		-,		Other (Explain in Remarks)			
	face (S7)			, ,						
		on and v	vetland hydrology mu	st be pr	esent, ur	nless dist	turbed or problematic. T			
Type:	_ayer (if observed):									
Depth (ir	nches):						Hydric Soil Present? Yes X No			
Remarks:							,,			
	m is revised from Nor	thcentra	I and Northeast Regi	onal Su	pplemen	t Version	2.0 to include the NRCS Field Indicators of Hydric Soils,			
Version 7.0,	2015 Errata. (http://w	ww.nrcs.	usda.gov/Internet/FS	E_DOC	UMENT	S/nrcs14	12p2_051293.docx)			

Project/Site: Toledo HP Redundancy Project	City/County: Maumee/Lucas Sampling Date: 06/25/2020				
Applicant/Owner: NiSource	State: OH Sampling Point: 14				
Investigator(s): B. Harrison/ A. O'Hare	Section, Township, Range: N/A				
	relief (concave, convex, none): concave Slope %:				
Subregion (LRR or MLRA): LRR L Lat: 41.563966	Long: -83.675382 Datum: NAD 83				
Soil Map Unit Name: Toledo silty clay, 0-1% slopes	NWI classification: N/A				
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)				
Are Vegetation, Soil, or Hydrology significantly distur	· · · · · · · · · · · · · · · · ·				
Are Vegetation, Soil, or Hydrologynaturally problems	atic? (If needed, explain any answers in Remarks.)				
SUMMARY OF FINDINGS – Attach site map showing sam					
Hydrophytic Vegetation Present?         Yes	Is the Sampled Area within a Wetland?  If yes, optional Wetland Site ID: W-7				
SP-14 is located in PEM portion of PEM/PFO W-7.					
HYDROLOGY					
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)				
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)				
Surface Water (A1) Water-Stained Leaves (I					
High Water Table (A2)  Aquatic Fauna (B13)	Moss Trim Lines (B16)				
Saturation (A3)  Marl Deposits (B15)	Dry-Season Water Table (C2)				
Water Marks (B1)  Hydrogen Sulfide Odor (	· · · · · · · · · · · · · · · · · · ·				
Sediment Deposits (B2)  Oxidized Rhizospheres of Particular (B2)					
Drift Deposits (B3) Presence of Reduced Iro					
Algal Mat or Crust (B4)  Recent Iron Reduction in  This Marks Our face (O7)	· · · · · · · · · · · · · · · · · · ·				
Iron Deposits (B5) Thin Muck Surface (C7)					
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remar					
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)				
Field Observations:					
Surface Water Present? Yes No X Depth (inches):					
Water Table Present? Yes No X Depth (inches):					
Saturation Present? Yes No X Depth (inches):	: Wetland Hydrology Present? Yes X No				
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:				
Remarks: Indicators B10, C8, C9, D5 are met.					

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
				Dominance rest worksheet.		
1 2				Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
						_ (* ')
				Total Number of Dominant Species Across All Strata:	1	(B)
5						_ (-)
5		· · ·		Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0%	(A/B)
7.				Prevalence Index worksheet:		_ ( ' ' /
		=Total Cover		Total % Cover of:	Multiply by:	
Sapling/Shrub Stratum (Plot size: 15'	)	•		OBL species		
·	<b>=</b>			FACW species	·	
					x 3 =	
					x 4 =	
					x 5 =	
					(A)	
				Prevalence Index = B/A		
				Hydrophytic Vegetation Indic		
		=Total Cover		1 - Rapid Test for Hydroph		
Herb Stratum (Plot size: 5' )		•		X 2 - Dominance Test is >50	_	
Phalaris arundinacea	45	Yes	FACW	3 - Prevalence Index is ≤3.		
				4 - Morphological Adaptation	ons¹ (Provide su	pporting
3.				data in Remarks or on a	separate sheet	)
i.				Problematic Hydrophytic V	egetation <sup>1</sup> (Expl	ain)
5. 5.				<sup>1</sup> Indicators of hydric soil and we be present, unless disturbed or		must
7				Definitions of Vegetation Stra		
· i						
				Tree – Woody plants 3 in. (7.6 diameter at breast height (DBH		height.
0.	_			Sapling/shrub – Woody plants	s less than 3 in.	DBH
1				and greater than or equal to 3.2		
2				Herb – All herbaceous (non-wo	ody) plants red	ardless
	45	=Total Cover		of size, and woody plants less		u. u. 000
Noody Vine Stratum (Plot size: 30'	_)			Woody vines – All woody vine	s greater than 3	.28 ft in
				height.	grouter trials o	
2.						
3.				Hydrophytic Vegetation		
4				Present? Yes X	No	
		=Total Cover				

Depth	cription: (Describe t Matrix	to the dep		<b>ument ti</b> x Featur		ator or co	onfirm the absence o	f indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-4	10YR 3/1	100					Loamy/Clayey	
4-13	10YR 3/1	80	10YR 5/4	10	<u>C</u>	M	Loamy/Clayey	Distinct redox concentrations
			10YR 4/4	10	С	М		Distinct redox concentrations
13-22	10YR 3/1	70	10YR 5/6	15	С	М	Loamy/Clayey	Prominent redox concentrations
			10YR 6/4	10	С	М		Distinct redox concentrations
			<u> </u>					
<sup>1</sup> Type: C=C	oncentration, D=Depl	etion, RM	=Reduced Matrix, M	1S=Mas	ked Sand	d Grains.	<sup>2</sup> Location: P	L=Pore Lining, M=Matrix.
Hydric Soil								or Problematic Hydric Soils <sup>3</sup> :
Histosol			Polyvalue Belo		.ce (S8) (	LRR R,		uck (A10) (LRR K, L, MLRA 149B)
	oipedon (A2) stic (A3)		MLRA 149B) Thin Dark Surfa	,	) (I RR R	MI RA 1		rairie Redox (A16) ( <b>LRR K, L, R</b> ) ucky Peat or Peat (S3) ( <b>LRR K, L, R</b> )
	en Sulfide (A4)		High Chroma S					ue Below Surface (S8) (LRR K, L)
	d Layers (A5)		Loamy Mucky I					rk Surface (S9) ( <b>LRR K, L</b> )
	d Below Dark Surface	(A11)	Loamy Gleyed			,		nganese Masses (F12) ( <b>LRR K, L, R</b> )
Thick Da	ark Surface (A12)	•	Depleted Matrix	x (F3)			Piedmor	nt Floodplain Soils (F19) (MLRA 149B)
	lucky Mineral (S1)		X Redox Dark Su	,	,			podic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
	Gleyed Matrix (S4)		Depleted Dark					rent Material (F21)
	Redox (S5)	•	Redox Depress		8)			allow Dark Surface (F22)
	Matrix (S6) rface (S7)	•	Marl (F10) ( <b>LR</b>	HK, L)			Other (E	Explain in Remarks)
Daik Su	nace (37)							
			etland hydrology mu	ıst be pr	resent, ur	nless dist	urbed or problematic.	
	Layer (if observed):							
Type:								
Depth (ii	ncnes):						Hydric Soil Prese	nt? Yes X No
Remarks: This data for	m is revised from No	rthcentral	and Northeast Regi	ional Su	ınnlemen	t Version	2.0 to include the NR	CS Field Indicators of Hydric Soils,
	2015 Errata. (http://w							30 Field indicators of Frydrio Gollo,

Project/Site: Toledo HP Redundancy Project	City/County: Maumee/Lucas Sampling Date: 06/25/2020
Applicant/Owner: NiSource	State: OH Sampling Point: 15
Investigator(s): B. Harrison/ A. O'Hare	Section, Township, Range: N/A
• • • •	relief (concave, convex, none): convex Slope %:
Subregion (LRR or MLRA): LRR L Lat: 41.564102	Long: -83.674831 Datum: NAD 83
Soil Map Unit Name: Toledo silty clay, 0-1% slopes	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturb	
Are Vegetation, Soil, or Hydrology naturally problema	
SUMMARY OF FINDINGS – Attach site map showing sam	
Hydrophytic Vegetation Present? Yes No X	Is the Sampled Area
Hydric Soil Present?  Yes  No X	within a Wetland? Yes No X
Wetland Hydrology Present? Yes No X	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report.) SP-15 is located in upland adjacent to PEM W-7.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leaves (E	B9) Drainage Patterns (B10)
High Water Table (A2)  Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3) Marl Deposits (B15)	Dry-Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide Odor (	C(C1) Crayfish Burrows (C8)
Sediment Deposits (B2)  Oxidized Rhizospheres of	on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Reduced Iro	on (C4) Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4) Recent Iron Reduction in	n Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remark	ks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	<del>_</del>
Surface Water Present? Yes No _X Depth (inches):	
Water Table Present? Yes No X Depth (inches):	
Saturation Present? Yes No X Depth (inches):	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:
Remarks: No indicators met.	

**VEGETATION** – Use scientific names of plants. Sampling Point: 15 Dominant Absolute Indicator % Cover\_ <u>Tree Stratum</u> (Plot size: 30') Species? **Dominance Test worksheet:** Status 1. **Number of Dominant Species** 2. That Are OBL, FACW, or FAC: 0 (A) 3. Total Number of Dominant (B) 4. Species Across All Strata: 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 0.0% (A/B) Prevalence Index worksheet: =Total Cover Total % Cover of: Multiply by: Sapling/Shrub Stratum (Plot size: 15' OBL species x 1 = 1. Pyrus calleryana 15 **FACW** species 0 x 2 = 2. FAC species 10 x 3 = 30 75 3. FACU species x 4 = 300 4. **UPL** species 20 x 5 = 5. Column Totals: 105 (A) 430 Prevalence Index = B/A =4.10 6. **Hydrophytic Vegetation Indicators:** 7. 15 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: 2 - Dominance Test is >50% 1. Schedonorus arundinaceus 30 Yes **FACU** 3 - Prevalence Index is ≤3.01 2. 15 **FACU** 4 - Morphological Adaptations (Provide supporting Poa pratensis Yes data in Remarks or on a separate sheet) Yes 3. Achillea millefolium 15 **FACU** 4. Medicago lupulina 10 No **FACU** Problematic Hydrophytic Vegetation<sup>1</sup> (Explain) 5. Juncus tenuis 10 No FAC <sup>1</sup>Indicators of hydric soil and wetland hydrology must 5 UPL 6. Melilotus altissimus No be present, unless disturbed or problematic. 5 7. Erigeron annuus No **FACU Definitions of Vegetation Strata:** 8. Tree - Woody plants 3 in. (7.6 cm) or more in 9. diameter at breast height (DBH), regardless of height. 10. Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless 90 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' Woody vines - All woody vines greater than 3.28 ft in 1. height. Hydrophytic Vegetation Yes \_\_\_ Present? No X =Total Cover Remarks: (Include photo numbers here or on a separate sheet.) No test is met. Photograph C-15.

Profile Desc	ription: (Describe t	to the de				ator or co	onfirm the absence of	findicators.)
Depth	Matrix			x Featur		. 2		
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-3	10YR 3/2	100					Loamy/Clayey	
3-6	10YR 3/1	75	10YR 4/3	20	<u>C</u>	<u>M</u>	Loamy/Clayey	Distinct redox concentrations
			10YR 5/6	5	С	M		Prominent redox concentrations
6-14	10YR 4/3	95	10YR 4/4	5	С	M	Loamy/Clayey	Faint redox concentrations
			_					
			_					
			_					_
<sup>1</sup> Type: C=Co	oncentration, D=Depl	etion. RM	=Reduced Matrix. N	1S=Mas	ked Sand	Grains.	<sup>2</sup> Location: PI	L=Pore Lining, M=Matrix.
Hydric Soil I	·							or Problematic Hydric Soils <sup>3</sup> :
Histosol			Polyvalue Belo	w Surfa	ce (S8) (I	LRR R,	2 cm Mu	ck (A10) ( <b>LRR K, L, MLRA 149B</b> )
Histic Ep	pipedon (A2)		MLRA 149B	)			Coast Pr	airie Redox (A16) ( <b>LRR K, L, R</b> )
Black His	stic (A3)		Thin Dark Surf	ace (S9)	(LRR R	, MLRA 1	<b>49B</b> ) 5 cm Mu	cky Peat or Peat (S3) (LRR K, L, R)
Hydroge	n Sulfide (A4)		High Chroma S	Sands (S	11) ( <b>LR</b> F	R K, L)	Polyvalue	e Below Surface (S8) ( <b>LRR K, L</b> )
Stratified	Layers (A5)		Loamy Mucky	Mineral	(F1) ( <b>LR</b> I	R K, L)	Thin Dark	k Surface (S9) ( <b>LRR K, L</b> )
	Below Dark Surface	(A11)	Loamy Gleyed		F2)		Iron-Man	ganese Masses (F12) (LRR K, L, R)
	rk Surface (A12)		Depleted Matri					t Floodplain Soils (F19) (MLRA 149B)
	lucky Mineral (S1)		Redox Dark Su					podic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
	leyed Matrix (S4)		Depleted Dark					ent Material (F21)
	edox (S5)		Redox Depress		3)			allow Dark Surface (F22)
	Matrix (S6)		Marl (F10) ( <b>LR</b>	HK, L)			Other (E)	xplain in Remarks)
Dark Sur	face (S7)							
<sup>3</sup> Indicators of	hvdrophytic vegetati	on and w	etland hydrology mu	ıst be pr	esent. ur	nless dist	urbed or problematic.	
	ayer (if observed):						P. C.	
Type:	compac	t soil						
Depth (in	nches):	14					Hydric Soil Presen	nt? Yes No_X_
Remarks:								
								CS Field Indicators of Hydric Soils,
Version 7.0,	2015 Errata. (http://w	ww.nrcs.u	usda.gov/Internet/FS	SE_DOC	UMENT	S/nrcs14	2p2_051293.docx)	

Project/Site: Toledo HP Redundancy Project	City/County: Maumee/Lucas Sampling Date: 06/25/2020					
Applicant/Owner: NiSource	State: OH Sampling Point: 16					
Investigator(s): B. Harrison/ A. O'Hare	Section, Township, Range: N/A					
Landform (hillside, terrace, etc.): terrace Local	relief (concave, convex, none): concave Slope %:					
Subregion (LRR or MLRA): LRR L Lat: 41.564733	Long: -83.67246 Datum: NAD 83					
Soil Map Unit Name: Toledo silty clay, 0-1% slopes	NWI classification: N/A					
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)					
Are Vegetation, Soil, or Hydrology significantly distur						
Are Vegetation , Soil , or Hydrology naturally problems						
<u> </u>						
SUMMARY OF FINDINGS – Attach site map showing sam	ipling point locations, transects, important features, etc.					
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area					
Hydric Soil Present? Yes X No	within a Wetland? Yes X No					
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: W-8					
Remarks: (Explain alternative procedures here or in a separate report.)						
SP-16 is located in PEM portion of PEM/PFO W-8.						
HYDROLOGY						
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)					
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)					
Surface Water (A1) Water-Stained Leaves (I	B9) X Drainage Patterns (B10)					
High Water Table (A2)  Aquatic Fauna (B13)	Moss Trim Lines (B16)					
Saturation (A3) Marl Deposits (B15)	Dry-Season Water Table (C2)					
Water Marks (B1) Hydrogen Sulfide Odor (	i i i i i i i i i i i i i i i i i i i					
X Sediment Deposits (B2) Oxidized Rhizospheres of	on Living Roots (C3) X Saturation Visible on Aerial Imagery (C9)					
Drift Deposits (B3) Presence of Reduced Iro						
Algal Mat or Crust (B4)  Recent Iron Reduction ir	• • • • • • • • • • • • • • • • • • • •					
Iron Deposits (B5)  Thin Muck Surface (C7)						
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remar						
X Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)					
Field Observations:						
Surface Water Present? Yes No X Depth (inches):						
Water Table Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches):						
	: Wetland Hydrology Present? Yes X No					
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre						
besome recorded bata (stream gauge, monitoring well, acrial photos, pre	vious inspections), if available.					
Remarks:						
Indicators B2, B8, B10, C8, C9, D5 are met.						

2	10			Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC:  Prevalence Index worksheet: Total % Cover of:	2 100.0%	(B) (A/B)
3		=Total Cover		Total Number of Dominant Species Across All Strata:  Percent of Dominant Species That Are OBL, FACW, or FAC:  Prevalence Index worksheet:  Total % Cover of:	2 100.0%	_(B) _(A/B)
5. 6. 7. Sapling/Shrub Stratum (Plot size: 15' ) 1. Fraxinus pennsylvanica 1 2. 3. 4.	10	=Total Cover		Percent of Dominant Species That Are OBL, FACW, or FAC:  Prevalence Index worksheet:  Total % Cover of:	100.0%	(A/B)
7. Sapling/Shrub Stratum (Plot size: 15' )  1. Fraxinus pennsylvanica 12. 3. 4.	10	=Total Cover		Prevalence Index worksheet:  Total % Cover of:		<u> </u>
Sapling/Shrub Stratum (Plot size: 15' )  1. Fraxinus pennsylvanica 1  2. 3. 4.	10	=Total Cover		Total % Cover of:	Multiply by:	
1. Fraxinus pennsylvanica 1 2. 3. 4.	10				Multiply by:	
<ol> <li>Fraxinus pennsylvanica</li> <li>3.</li> <li>4.</li> </ol>		Yes				
2		Yes		OBL species x	·	
3. 4.			FACW		2 =	
4.					3 =	
				FACU species x	4 =	_
5				UPL species x	5 =	
5.				Column Totals: (A	A)	(B)
6				Prevalence Index = B/A =	·	
7				Hydrophytic Vegetation Indicat	tors:	
	10 =	=Total Cover		1 - Rapid Test for Hydrophyti	ic Vegetation	
Herb Stratum (Plot size: 5')				X 2 - Dominance Test is >50%		
1. Scirpus cyperinus 1	00	Yes	OBL	3 - Prevalence Index is ≤3.01	I	
	10	No	OBL	4 - Morphological Adaptation data in Remarks or on a s		
3. 4.				Problematic Hydrophytic Veg		
5.				<sup>1</sup> Indicators of hydric soil and wetl be present, unless disturbed or p		must
7.				Definitions of Vegetation Strate	a:	
8				Tree – Woody plants 3 in. (7.6 cr diameter at breast height (DBH),		neiaht.
10.						_
11.				Sapling/shrub – Woody plants lead of the same greater than or equal to 3.28		חסכ
12				Herb – All herbaceous (non-wood	dv) plants, rega	ardless
1	10 =	=Total Cover		of size, and woody plants less the		
Woody Vine Stratum         (Plot size:				Woody vines – All woody vines height.	greater than 3.	28 ft in
2.				g.m.		
3.				Hydrophytic		
4.				Vegetation Present? Yes X	No	
	<del></del> .	=Total Cover		riesent: res_X		
Remarks: (Include photo numbers here or on a separate s		-1014. 0010.				

Profile Desc Depth	cription: (Describe to Matrix	to the de	=	<b>ument tl</b> x Featur		ator or co	onfirm the absence of	f indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-3	10YR 3/1	100						
	10YR 3/1		10VP 4/6	10			Loomy/Clayov	Prominent radey concentrations
3-16	101H 3/1	90	10YR 4/6	10	<u>C</u>	M	Loamy/Clayey	Prominent redox concentrations
								_
								_
	oncentration, D=Depl	letion, RN	M=Reduced Matrix, N	/IS=Mas	ked San	d Grains.		L=Pore Lining, M=Matrix.
Hydric Soil								or Problematic Hydric Soils <sup>3</sup> :
Histosol			Polyvalue Belo		ce (S8) (	LRR R,		ck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)		MLRA 149B	•	\	MIDA		airie Redox (A16) (LRR K, L, R)
Black Hi	stic (A3) n Sulfide (A4)		Thin Dark Surf High Chroma S					cky Peat or Peat (S3) (LRR K, L, R)
	l Layers (A5)		Loamy Mucky					e Below Surface (S8) ( <b>LRR K, L</b> ) k Surface (S9) ( <b>LRR K, L</b> )
	d Below Dark Surface	e (A11)	Loamy Gleyed			, L)		ganese Masses (F12) ( <b>LRR K, L, R</b> )
	ark Surface (A12)	, (, (, , , ,	Depleted Matri		,			t Floodplain Soils (F19) (MLRA 149B)
	lucky Mineral (S1)		X Redox Dark Su		6)			podic (TA6) (MLRA 144A, 145, 149B)
	ileyed Matrix (S4)		Depleted Dark					ent Material (F21)
Sandy R	ledox (S5)		Redox Depres	sions (F	8)		Very Sha	allow Dark Surface (F22)
Stripped	Matrix (S6)		Marl (F10) ( <b>LR</b>	RK, L)			Other (Ex	xplain in Remarks)
Dark Su	rface (S7)							
3								
			vetland hydrology mi	ust be pr	resent, u	nless dist	urbed or problematic.	
Type:	Layer (if observed):							
•								
Depth (ir	ncnes):						Hydric Soil Presen	t? Yes X No
Remarks:							001 1 1 1 NDC	20 5: 111 1:
	m is revised from No 2015 Errata. (http://w							CS Field Indicators of Hydric Soils,
VC101011 7.0,	2010 Enata. (http://w	******	asaa.gov/internet/1	0L_B00	JOINEIVI	0/11/05 1 4/	LPL_001200.000X)	

Project/Site: Toledo HP Redundancy Project	City/County: Maumee/Lucas Sampling Date: 06/25/2020					
Applicant/Owner: NiSource	State: OH Sampling Point: 17					
Investigator(s): B. Harrison/ A. O'Hare	Section, Township, Range: N/A					
Landform (hillside, terrace, etc.): terrace Local	relief (concave, convex, none): concave Slope %:					
Subregion (LRR or MLRA): LRR L Lat: 41.564665	Long: -83.672844 Datum: NAD 83					
Soil Map Unit Name: Toledo silty clay, 0-1% slopes	NWI classification: N/A					
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)					
Are Vegetation, Soil, or Hydrology significantly distur						
Are Vegetation , Soil , or Hydrology naturally problems	<del></del>					
SUMMARY OF FINDINGS – Attach site map showing sam	pling point locations, transects, important features, etc.					
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area					
Hydric Soil Present? Yes X No	within a Wetland? Yes X No					
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: W-8					
Remarks: (Explain alternative procedures here or in a separate report.) SP-17 is located in PFO portion of PEM/PFO W-8.						
HYDROLOGY						
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)					
Primary Indicators (minimum of one is required; check all that apply)	X Surface Soil Cracks (B6)					
Surface Water (A1) Water-Stained Leaves (I						
High Water Table (A2)  — Aquatic Fauna (B13)  — Mark Deposits (B15)	Moss Trim Lines (B16) Dry-Season Water Table (C2)					
Saturation (A3)  X Water Marks (B1)  Marl Deposits (B15)  Hydrogen Sulfide Odor (						
X Water Marks (B1) Hydrogen Sulfide Odor ( X Sediment Deposits (B2) Oxidized Rhizospheres of						
Drift Deposits (B3)  Presence of Reduced In						
Algal Mat or Crust (B4)  Recent Iron Reduction in						
Iron Deposits (B5)  Thin Muck Surface (C7)	Shallow Aquitard (D3)					
X Inundation Visible on Aerial Imagery (B7)  Other (Explain in Remar	<del></del>					
X Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)					
Field Observations:	<u></u>					
Surface Water Present? Yes No X Depth (inches):						
Water Table Present?  Yes  No X  Depth (inches):						
Saturation Present? Yes No X Depth (inches):						
(includes capillary fringe)						
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:					
	•					
Remarks: Indicators B1, B2, B8, B6, B9, D5 are met.						
malocators B1, B2, B3, B3, B3, B3 are met.						

	Absolute	Dominant	Indicator			
ree Stratum (Plot size: 30' )	% Cover	Species?	Status	Dominance Test worksheet:		
Acer saccharinum	70	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC	): <u>2</u>	_ (A)
·				Total Number of Dominant Species Across All Strata:	2	(B)
	<u> </u>			Percent of Dominant Species That Are OBL, FACW, or FAC	: 100.0%	 (A/E
				Prevalence Index workshee		_(' ', -
		=Total Cover		Total % Cover of:	Multiply by:	
apling/Shrub Stratum (Plot size: 15'	)			OBL species		
Fraxinus pennsylvanica	80	Yes	FACW	FACW species		
Rhamnus cathartica	10	No	FAC	FAC species	x 3 =	
				FACU species		
				UPL species	x 5 =	
				Column Totals:		
				Prevalence Index = B/		
				Hydrophytic Vegetation Indi		
	90	=Total Cover		1 - Rapid Test for Hydrop		
erb Stratum (Plot size: 5' )				X 2 - Dominance Test is >5		
·				3 - Prevalence Index is ≤3		
				4 - Morphological Adaptat		pporti
				data in Remarks or on	•	
				Problematic Hydrophytic	Vegetation <sup>1</sup> (Expl	ain)
				<b> </b>		
				<sup>1</sup> Indicators of hydric soil and we be present, unless disturbed of		/ must
				Definitions of Vegetation St	rata:	
	· ——			Tree – Woody plants 3 in. (7.6 diameter at breast height (DB		heigh
).				Sapling/shrub – Woody plan	ts less than 3 in.	
1				and greater than or equal to 3	.28 ft (1 m) tall.	
2.				Herb - All herbaceous (non-w	oody) plants, reg	ardles
	:	=Total Cover		of size, and woody plants less	than 3.28 ft tall.	
Voody Vine Stratum (Plot size: 30'	)			Woody vines – All woody vin- height.	es greater than 3	.28 ft
				Hydrophytic		
				Vocatation		
				Vegetation Present? Yes X	No	

Profile Desc Depth	ription: (Describe t Matrix	to the de	•	ı <b>ment tl</b> < Featur		ator or co	onfirm the absence of	of indica	tors.)	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks	<u> </u>
0-3	10YR 3/1	95	10YR 4/3	5	С	M	Loamy/Clayey	Dis	stinct redox cond	entrations
3-7	10YR 3/1	80	10YR 5/6	20	C	M	Loamy/Clayey	Pron	ninent redox cor	ncentrations
7-15	10YR 3/1	90	10YR 6/4	20	С	<u>M</u>	Loamy/Clayey	Dis	stinct redox conc	entrations
¹Type: C=Co	oncentration, D=Depl	etion, RM	M=Reduced Matrix, M	IS=Mas	ked Sand	d Grains.	<sup>2</sup> Location: F	L=Pore	Lining, M=Matri	x.
Hydric Soil		•	·						lematic Hydric	•
Histosol			Polyvalue Belo		ce (S8) (	LRR R,		•	) (LRR K, L, ML	*
	pipedon (A2)		MLRA 149B)					edox (A16) (LRR		
Black Hi	` '		Thin Dark Surfa					-	at or Peat (S3) (I	
	n Sulfide (A4)		High Chroma S						Surface (S8) (L	
	l Layers (A5) I Below Dark Surface	Δ(Δ11)	Loamy Mucky I Loamy Gleyed			n K, L)			ce (S9) ( <b>LRR K,</b> Masses (F12) (	
	ark Surface (A12)	(7(11)	Depleted Matrix		· <i>L</i> )		Iron-Manganese Masses (F12) ( <b>LRR K, L, R</b> ) Piedmont Floodplain Soils (F19) ( <b>MLRA 149B</b> )			
	lucky Mineral (S1)		X Redox Dark Su		·6)			•	A6) ( <b>MLRA 144</b> .	
	leyed Matrix (S4)		Depleted Dark			Red Parent Material (F21)				
Sandy R	edox (S5)		Redox Depress	8)		Very Shallow Dark Surface (F22)				
	Matrix (S6)		Marl (F10) ( <b>LR</b>			Other (Explain in Remarks)				
Dark Sui	face (S7)									
<sup>3</sup> Indicators of	f hydronhytic vegetati	ion and w	vetland hydrology mu	ıst he nı	esent ur	nless dist	urbed or problematic.			
	_ayer (if observed):		retiand hydrology me	ot bo pi	000111, 01	11000 0101	arboa or problematic.			
Type:										
Depth (ir	nches):						Hydric Soil Prese	nt?	Yes X	No
Remarks:										
	m is revised from No 2015 Errata. (http://w						2.0 to include the NR	CS Field	I Indicators of Hy	ydric Soils,
version 7.0,	2010 Errata. (mtp.//w	/www.iiics.	usua.gov/internet/1 e	JL_DOC	JOIVILIVI	0/1110314	EPE_001230.000x)			

Project/Site: Toledo HP Redundancy Project	City/County: Maumee/Lucas Sampling Date: 06/25/2020						
Applicant/Owner: NiSource	State: OH Sampling Point: 18						
Investigator(s): B. Harrison/ A. O'Hare	Section, Township, Range: N/A						
Landform (hillside, terrace, etc.): terrace Local	relief (concave, convex, none): convex Slope %:						
Subregion (LRR or MLRA): LRR L Lat: 41.564874	Long: -83.671921 Datum: NAD 83						
Soil Map Unit Name: Toledo silty clay, 0-1% slopes	NWI classification: N/A						
Are climatic / hydrologic conditions on the site typical for this time of year?							
	<del></del>						
Are Vegetation, Soil, or Hydrologysignificantly distur							
Are Vegetation, Soil, or Hydrologynaturally problems	atic? (If needed, explain any answers in Remarks.)						
SUMMARY OF FINDINGS – Attach site map showing sam	pling point locations, transects, important features, etc.						
Hydrophytic Vegetation Present? Yes No X	Is the Sampled Area						
Hydric Soil Present?  Yes X No	within a Wetland? Yes No_X_						
Wetland Hydrology Present? Yes No X	If yes, optional Wetland Site ID:						
Remarks: (Explain alternative procedures here or in a separate report.)							
SP-18 is located in upland adjacent to PEM/PFO W-8.							
HYDROLOGY							
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)						
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)						
Surface Water (A1) Water-Stained Leaves (I							
High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)						
Saturation (A3)  Marl Deposits (B15)	Dry-Season Water Table (C2)						
Water Marks (B1)  Hydrogen Sulfide Odor (							
Sediment Deposits (B2)  Oxidized Rhizospheres of the control of th							
Drift Deposits (B3) Presence of Reduced Iro	<u> </u>						
Algal Mat or Crust (B4)  Recent Iron Reduction in	• • • • • • • • • • • • • • • • • • • •						
Iron Deposits (B5) Thin Muck Surface (C7)							
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remar							
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)						
Field Observations:							
Surface Water Present? Yes No X Depth (inches):							
Water Table Present? Yes No X Depth (inches):							
Saturation Present? Yes No X Depth (inches):	Wetland Hydrology Present? Yes No X						
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	avious inspections) if available:						
Describe Necorded Data (stream gauge, monitoring well, aerial priotos, pre	inspections), if available.						
Remarks:							
No indicators met.							

EGETATION – Use scientific names of plan	Absolute	Dominant	Indicator	Sampli	<u> </u>	18	
ree Stratum (Plot size:30')	% Cover	Species?	Status	Dominance Test workshe	et:		
·		·		Number of Dominant Speci That Are OBL, FACW, or F		2	_ (A)
				Total Number of Dominant Species Across All Strata:		4	_(B)
		·		Percent of Dominant Specie That Are OBL, FACW, or F		50.0%	_ (A/E
				Prevalence Index workshop	eet:		
		=Total Cover		Total % Cover of:	Mu	Itiply by:	
apling/Shrub Stratum (Plot size:)				OBL species 0	x 1 =	0	
Pyrus calleryana	5	Yes	UPL	FACW species 25	x 2 =	50	
Rhamnus cathartica	5	Yes	FAC	FAC species 30	x 3 =	90	
Fraxinus pennsylvanica	5	Yes	FACW	FACU species 70	x 4 =	280	
		·		UPL species 5	x 5 =	25	
				Column Totals: 130	(A)	445	(E
				Prevalence Index =	B/A =	3.42	
				Hydrophytic Vegetation Ir	dicators:		
	15	=Total Cover		1 - Rapid Test for Hydro	ophytic Ve	getation	
erb Stratum (Plot size: 5' )		•		2 - Dominance Test is :	>50%		
Potentilla simplex	60	Yes	FACU	3 - Prevalence Index is	≤3.0 <sup>1</sup>		
Toxicodendron radicans	20	No	FAC	4 - Morphological Adap	tations¹ (Pi	ovide su	pporti
Phragmites australis	10	No	FACW	data in Remarks or o	n a separa	ate sheet)	)
Phalaris arundinacea	10	No	FACW	Problematic Hydrophyti	c Vegetation	on¹ (Expla	ain)
Solidago canadensis	10	No	FACU	<del></del>	_		
Sisyrinchium angustifolium	5	No	FAC	<sup>1</sup> Indicators of hydric soil and be present, unless disturbed			must
				Definitions of Vegetation	-		
				Tree – Woody plants 3 in. (	7 6 om) or	moro in	
				diameter at breast height (E			heigh
		·		Sapling/shrub – Woody pl	ante lace th	nan 3 in I	DRH
				and greater than or equal to			ווטט
2.		·		Herb – All herbaceous (nor	woody) pl	ante rog	ardla
	115	=Total Cover		of size, and woody plants le			aruies
oody Vine Stratum (Plot size: 30')				Woody vines – All woody vines	rines great	er than 3.	.28 ft
				neight.			
				Hydrophytic			
				Vegetation Present? Yes	No	Х	
		=Total Cover		riesent: res	_ '''		
		= Total Cover					

Profile Desc Depth	ription: (Describe t Matrix	to the de	-	ı <b>ment t</b> l < Featur		ator or co	onfirm the absence o	f indicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-2	10YR 3/2	100					Loamy/Clayey		
2-8	10YR 3/1	80	10YR 4/6	20	С	M	Loamy/Clayey	Prominent redox concentrations	
8-12	10YR 3/1	80	10YR 4/3	15	С	M	Loamy/Clayey	Distinct redox concentrations	
			10YR 5/6	5	С	M		Prominent redox concentrations	
<sup>1</sup> Type: C=Co	oncentration, D=Depl	etion, RM	l=Reduced Matrix, M	IS=Mas	ked Sand	d Grains.	<sup>2</sup> Location: P	L=Pore Lining, M=Matrix.	
Hydric Soil				0 (	(00) (			or Problematic Hydric Soils <sup>3</sup> :	
Histosol	(A1) pipedon (A2)		Polyvalue Belo MLRA 149B		ce (S8) (	LRR R,		rairia Paday (A16) (LRR K, L, MLRA 149B)	
Black Hi			Thin Dark Surfa		(LRR R	. MLRA 1		rairie Redox (A16) ( <b>LRR K, L, R</b> ) icky Peat or Peat (S3) ( <b>LRR K, L, R</b> )	
	n Sulfide (A4)		High Chroma Sands (S11) (LRR K, L)  Polyvalue Below Surface (S8) (LRR K, L)						
	Layers (A5)		Loamy Mucky I					'k Surface (S9) ( <b>LRR K, L</b> )	
Depleted	Below Dark Surface	(A11)	Loamy Gleyed	Matrix (	F2)		Iron-Mar	nganese Masses (F12) ( <b>LRR K, L, R</b>	
	ark Surface (A12)		Depleted Matrix					nt Floodplain Soils (F19) (MLRA 149	
	lucky Mineral (S1)		X Redox Dark Su					podic (TA6) ( <b>MLRA 144A, 145, 149E</b>	
	ileyed Matrix (S4)		Depleted Dark				Ped Parent Material (F21) Very Shallow Dark Surface (F22)		
	edox (S5) Matrix (S6)		Redox Depress Marl (F10) (LR		5)		Other (Explain in Remarks)		
	face (S7)		Wan (1 10) ( <b>LN</b>	ii ix, ∟)			Other (E	Apiain in Nemarks)	
_									
	f hydrophytic vegetati _ayer (if observed):	ion and w	etland hydrology mu	st be pi	esent, ur	nless dist	urbed or problematic.		
Type:	-ayer (ii observed). Comp	act							
Depth (ir	'	12					Hydric Soil Presei	nt? Yes X No	
Remarks:	<u> </u>								
								CS Field Indicators of Hydric Soils,	
version 7.0,	2015 Errata. (http://w	ww.nrcs.	usda.gov/Internet/FS	SE_DOC	JUMENT	S/nrcs14	2p2_051293.docx)		

Project/Site: Toledo HP Redundancy Project		City/County: Maumee/Lucas	Sampling Date: 09/2/2021				
Applicant/Owner: NiSource		State: OH	Sampling Point: 19				
Investigator(s): B. Harrison/ B. Salupo		Section, Township, Range: N/A					
Landform (hillside, terrace, etc.): terrace	Local re	elief (concave, convex, none): concave	Slope %:				
Subregion (LRR or MLRA): LRR L	Lat: 41.566058	Long: -83.673256	Datum: NAD 83				
Soil Map Unit Name: Toledo silty clay (To), 0-		NWI classification:	<del></del>				
Are climatic / hydrologic conditions on the site ty	•		explain in Remarks.)				
Are Vegetation, Soil, or Hydrold			nt? Yes X No				
Are Vegetation, Soil, or Hydrold	ogynaturally problemati	c? (If needed, explain any answers in	Remarks.)				
SUMMARY OF FINDINGS – Attach s	ite map showing samp	ling point locations, transects, imp	oortant features, etc.				
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area					
Hydric Soil Present?	Yes X No	within a Wetland? Yes X	No				
Wetland Hydrology Present?	Yes X No	If yes, optional Wetland Site ID: W-9					
According to the Palmer Drought Severity Index	(PDSI), the area was experier	ncing very moist conditions at the time of the su	ırvey.				
HYDROLOGY							
Wetland Hydrology Indicators:		Secondary Indicators (m	ninimum of two required)				
Primary Indicators (minimum of one is required	; check all that apply)	Surface Soil Cracks	s (B6)				
Surface Water (A1)	Water-Stained Leaves (BS	Drainage Patterns (	B10)				
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B	16)				
Saturation (A3)	Marl Deposits (B15)						
—Water Marks (B1)	Hydrogen Sulfide Odor (C						
Sediment Deposits (B2)	<del></del>	idized Rhizospheres on Living Roots (C3) X Saturation Visible on Aerial Imagery (C9)					
Drift Deposits (B3)	Presence of Reduced Iron						
Algal Mat or Crust (B4)	Recent Iron Reduction in 7	` '					
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D					
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks	Microtopographic R  X FAC-Neutral Test (I					
			55)				
Field Observations:	No. V. Donth (inches).						
Surface Water Present? Yes Water Table Present? Yes	No X Depth (inches):  No X Depth (inches):						
Water Table Present? Yes Saturation Present? Yes	No X Depth (inches):		Yes X No				
(includes capillary fringe)			<u> </u>				
Describe Recorded Data (stream gauge, monit	oring well, aerial photos, previo	us inspections), if available:					
Remarks: Indicators C9, D2 and D5 are met.							
US Army Corps of Engineers		Northcentral and I	Northeast Region - Version 2.0				

## **VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size:30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. Salix nigra	30	Yes	OBL	Number of Dominant Species	
2. Acer saccharinum	25	Yes	FACW	That Are OBL, FACW, or FAC:	6 (A)
3. Populus deltoides 4.	20	Yes	FAC	Total Number of Dominant Species Across All Strata:	6 (B)
5.     6.				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0%(A/B)
7				Prevalence Index worksheet:	
	75	=Total Cover		Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species	< 1 =
1. Fraxinus pennsylvanica	10	Yes	FACW	FACW species	(2 =
2. Acer saccharinum	5	Yes	FACW	FAC species	(3 =
3. Catalpa bignonioides	2	No	FACU	FACU species	( 4 =
4. Quercus palustris	1	No	FACW	UPL species	< 5 =
5				Column Totals: (	(A) (B)
6.				Prevalence Index = B/A =	·
7				Hydrophytic Vegetation Indicat	tors:
	18	=Total Cover		1 - Rapid Test for Hydrophyti	ic Vegetation
Herb Stratum (Plot size:)				X 2 - Dominance Test is >50%	
1. Phalaris arundinacea	70	Yes	FACW	3 - Prevalence Index is ≤3.0 <sup>1</sup>	
2. Bidens frondosa	10	No	FACW	4 - Morphological Adaptation	
3. Lycopus americanus	10	No	OBL	data in Remarks or on a s	eparate sheet)
4. Laportea canadensis	1	No	FACW	Problematic Hydrophytic Veg	getation <sup>1</sup> (Explain)
5 6				<sup>1</sup> Indicators of hydric soil and wetle present, unless disturbed or prob	
7.				Definitions of Vegetation Strata	a:
8.     9.				Tree – Woody plants 3 in. (7.6 cr at breast height (DBH), regardles	
11.				Sapling/shrub – Woody plants le greater than or equal to 3.28 ft (1	
12	91	=Total Cover		Herb – All herbaceous (non-wood size, and woody plants less than	
Woody Vine Stratum (Plot size: 30' )  1.				Woody vines – All woody vines of height.	greater than 3.28 ft in
2					
3				Hydrophytic Vegetation	
4.				Present? Yes X	No
		=Total Cover			

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

Dominance test is met.

Photograph C-19.

Sampling Point:

19

Depth	Matrix	tne dep		n <b>ent the</b> x Feature		or or conf	irm the absence of ir	idicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-14	10YR 3/2	90	10YR 4/6	10	С	M	Loamy/Clayey	Prominent redox concentrations	
14-18	10YR 4/1	90	10YR 4/6	10	С	М	Loamy/Clayey	Prominent redox concentrations	
¹Type: C=Cc Hydric Soil I Histosol	oncentration, D=Deplet			=Masked	d Sand G	arains.	<sup>2</sup> Location: P Indicators fo	Prominent redox concentrations  PL=Pore Lining, M=Matrix.  or Problematic Hydric Soils <sup>3</sup> :  ack (A10) (LRR K, L, MLRA 149B)  rairie Redox (A16) (LRR K, L, R)	
Black His			Thin Dark Surfa		(LRR R,	MLRA 14		ucky Peat or Peat (S3) ( <b>LRR K, L, R</b> )	
Hydroge	n Sulfide (A4)		High Chroma S	ands (S1	11) ( <b>LRR</b>	K, L)	Polyvalu	ue Below Surface (S8) ( <b>LRR K, L</b> )	
Stratified	Layers (A5)		Loamy Mucky N			K, L)	Thin Da	rk Surface (S9) (LRR K, L)	
Depleted	Below Dark Surface (	(A11)	Loamy Gleyed	Matrix (F	2)		Iron-Mai	nganese Masses (F12) (LRR K, L, R)	
Thick Da	ark Surface (A12)		Depleted Matrix	(F3)			Piedmor	nt Floodplain Soils (F19) (MLRA 149B)	
Sandy M	lucky Mineral (S1)		X Redox Dark Su	rface (F6	5)		Mesic S	podic (TA6) ( <b>MLRA 144A, 145, 149B</b> )	
Sandy G	leyed Matrix (S4)		Depleted Dark	Surface	(F7)		Red Par	rent Material (F21)	
	edox (S5)		Redox Depress	sions (F8	)		Very Shallow Dark Surface (F22)		
Stripped	Matrix (S6)		Marl (F10) ( <b>LR</b> l	RK,L)			Other (E	Explain in Remarks)	
Dark Sui	rface (S7)								
	hydrophytic vegetation	n and we	tland hydrology must	be pres	ent, unle:	ss disturb	ed or problematic.		
Type:	_ayer (if observed):								
Depth (ir	nches):						Hydric Soil Preser	nt? Yes X No	
Remarks: This data for							to include the NRCS	Field Indicators of Hydric Soils, Version	

Project/Site: Toledo HP Redundancy Project		City/County: Maumee/Lucas	Sampling Date: 09/2/2021				
Applicant/Owner: NiSource		State: OH	Sampling Point: 20				
Investigator(s): B. Harrison/ B. Salupo		Section, Township, Range: N/A					
Landform (hillside, terrace, etc.): terrace	Local re	elief (concave, convex, none): concave	Slope %:				
Subregion (LRR or MLRA): LRR L	Lat: 41.565899	Long: -83.673358	Datum: NAD 83				
Soil Map Unit Name: Toledo silty clay (To), 0-		NWI classification:	<del></del>				
Are climatic / hydrologic conditions on the site ty			explain in Remarks.)				
Are Vegetation, Soil, or Hydrol	<u></u>						
Are Vegetation, Soil, or Hydrol	ogynaturally problemati	c? (If needed, explain any answers in	Remarks.)				
SUMMARY OF FINDINGS – Attach	site map showing samp	ling point locations, transects, imp	oortant features, etc.				
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area					
Hydric Soil Present?	Yes X No	within a Wetland? Yes X	No				
Wetland Hydrology Present?	Yes X No	If yes, optional Wetland Site ID: W-9					
SP-20 is located in PEM W-9. According to the Palmer Drought Severity Inde	x (PDSI), the area was experier	ncing very moist conditions at the time of the su	ırvey.				
HYDROLOGY							
Wetland Hydrology Indicators:		Secondary Indicators (m	ninimum of two required)				
Primary Indicators (minimum of one is required	; check all that apply)	Surface Soil Cracks	s (B6)				
Surface Water (A1)	Water-Stained Leaves (BS	Drainage Patterns (	B10)				
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B	16)				
Saturation (A3)	Marl Deposits (B15)						
Water Marks (B1)	Hydrogen Sulfide Odor (C						
Sediment Deposits (B2)	Oxidized Rhizospheres on	· · · · · · · · · · · · · · · · · · ·	• • • •				
Drift Deposits (B3)	Presence of Reduced Iron	<del></del>					
Algal Mat or Crust (B4)	Recent Iron Reduction in	• • • • • • • • • • • • • • • • • • • •					
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D					
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks	Microtopographic R  X FAC-Neutral Test (I					
<u> </u>		A I AO-Neutral Test (I	55)				
Field Observations: Surface Water Present? Yes	No X Depth (inches):						
	No X Depth (inches):						
Water Table Present? Yes Saturation Present? Yes	No X Depth (inches):		Yes X No				
(includes capillary fringe)							
Describe Recorded Data (stream gauge, monit	oring well, aerial photos, previo	us inspections), if available:					
Remarks: Indicators C9, D2 and D5 are met.							
US Army Corps of Engineers		Northcentral and I	Northeast Region - Version 2.0				

**VEGETATION** – Use scientific names of plants. Sampling Point: 20 Absolute Dominant Indicator <u>Tree Stratum</u> (Plot size: 30') % Cover Species? Status **Dominance Test worksheet:** 1. Number of Dominant Species 2. That Are OBL, FACW, or FAC: 3 (A) 3. Total Number of Dominant 4. Species Across All Strata: (B) 5. Percent of Dominant Species That Are OBL, FACW, or FAC: 6. 75.0% (A/B) Prevalence Index worksheet: Total % Cover of: =Total Cover Multiply by: Sapling/Shrub Stratum (Plot size: 15' x 1 = OBL species FACW species x 2 = \_\_\_ Fraxinus pennsylvanica 15 Yes **FACW** 2. **FAC** species x 3 = \_\_\_\_ 3. FACU species x 4 = 4. UPL species x 5 = 5. Column Totals: (A) 6. Prevalence Index = B/A = **Hydrophytic Vegetation Indicators:** 15 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: 5' ) X 2 - Dominance Test is >50% Phalaris arundinacea 80 **FACW** 3 - Prevalence Index is ≤3.01 4 - Morphological Adaptations<sup>1</sup> (Provide supporting 20 2. Lycopus americanus No OBL data in Remarks or on a separate sheet) 3. Agrimonia parviflora 10 No FAC 4 Bidens frondosa 1 **FACW** Problematic Hydrophytic Vegetation<sup>1</sup> (Explain) No 1 Solidago canadensis No **FACU** 5. <sup>1</sup>Indicators of hydric soil and wetland hydrology must be 6. present, unless disturbed or problematic. 7. **Definitions of Vegetation Strata:** 8. **Tree** – Woody plants 3 in. (7.6 cm) or more in diameter 9. at breast height (DBH), regardless of height.

112 =Total Cover

Yes

Yes

=Total Cover

10

15

5

FAC

UPI

height.

Hydrophytic

Vegetation

Present?

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

(Plot size:

30'

Dominance test is met. Photograph C-20.

Woody Vine Stratum

Vitis riparia

Convolvulus arvensis

2.

3.

4.

No \_\_\_\_

Sapling/shrub - Woody plants less than 3 in. DBH and

Herb - All herbaceous (non-woody) plants, regardless of

Woody vines - All woody vines greater than 3.28 ft in

Yes X

greater than or equal to 3.28 ft (1 m) tall.

size, and woody plants less than 3.28 ft tall.

SOIL Sampling Point: 20

Depth	Matrix	tile depi		x Featur		i oi com	irm the absence of ir	idicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-4	10YR 4/1	95	10YR 4/6	5	С	M	Loamy/Clayey	Prominent redox concentrations	
4-18	10YR 4/1	90	10YR 5/4	10	С	<u>M</u>	Loamy/Clayey	Distinct redox concentrations	
						_			
	ncentration, D=Deple	tion, RM=	Reduced Matrix, MS	=Maske	d Sand G	rains.		PL=Pore Lining, M=Matrix.	
Hydric Soil II			Dahasahaa Dalas	0	- (CO) (I	DD D		for Problematic Hydric Soils <sup>3</sup> :	
Histosol (	` '		Polyvalue Belov		e (58) ( <b>L</b>	нн н,		uck (A10) (LRR K, L, MLRA 149B)	
Black His	ipedon (A2)		<i>'</i>		/I DD D	MI DA 1/		rairie Redox (A16) ( <b>LRR K, L, R</b> ) ucky Peat or Peat (S3) ( <b>LRR K, L, R</b> )	
	n Sulfide (A4)		Thin Dark Surface (S9) (LRR R, MLRA 149 High Chroma Sands (S11) (LRR K, L)				-	ue Below Surface (S8) ( <b>LRR K, L</b> )	
	Layers (A5)	/ <b>A</b> 11\	Loamy Mucky Mineral (F1) (LRR K, L)			K, L)		rk Surface (S9) (LRR K, L)	
	Below Dark Surface	(A11)		Loamy Gleyed Matrix (F2)				nganese Masses (F12) (LRR K, L, R)	
	rk Surface (A12)		Depleted Matrix (F3)					nt Floodplain Soils (F19) (MLRA 149B)	
	ucky Mineral (S1)		X Redox Dark Surface (F6)					Spodic (TA6) (MLRA 144A, 145, 149B)	
	eyed Matrix (S4)		Depleted Dark Surface (F7)				Red Parent Material (F21)		
Sandy Re	Matrix (S6)		Redox Depressions (F8) Marl (F10) ( <b>LRR K, L</b> )				Very Shallow Dark Surface (F22) Other (Explain in Remarks)		
Dark Sur			Man (1 10) (En	ιτ κ, <b>∟</b> )			Other (E	Explain in Hemains)	
	hydrophytic vegetatio	n and we	tland hydrology must	be pres	ent, unles	ss disturb	ed or problematic.		
Type:	ayo: ( obco: roa):								
Depth (in	ches):						Hydric Soil Prese	nt? Yes X No	
	n is revised from Nort ata. (http://www.nrcs.u							Field Indicators of Hydric Soils, Version	
IS Army Corn	s of Engineers						Northe	entral and Northeast Region - Version 2.0	

### WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Toledo HP Redundancy Project	t	City/County: Maumee/Lucas	Sampling Date: 09/2/2021			
Applicant/Owner: NiSource		State: OH	Sampling Point: 21			
Investigator(s): B. Harrison/ B. Salupo		Section, Township, Range: N/A				
Landform (hillside, terrace, etc.): terrace	Local re	elief (concave, convex, none): concave	Slope %:			
Subregion (LRR or MLRA): LRR L	Lat: 41.565274	Long: -83.672380	Datum: NAD 83			
Soil Map Unit Name: Toledo silty clay (To), (		NWI classification:				
<u></u>						
Are climatic / hydrologic conditions on the site	•		explain in Remarks.)			
Are Vegetation, Soil, or Hydro			nt? Yes X No			
Are Vegetation, Soil, or Hydro	ologynaturally problemati	ic? (If needed, explain any answers in	Remarks.)			
SUMMARY OF FINDINGS – Attach	site map showing samp	oling point locations, transects, imp	portant features, etc.			
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Area				
Hydric Soil Present?	Yes X No	within a Wetland? Yes	No X			
Wetland Hydrology Present?	Yes No X	If yes, optional Wetland Site ID:				
SP-21 is located in an upland adjacent to PEM/PFO W-9.  According to the Palmer Drought Severity Index (PDSI), the area was experiencing very moist conditions at the time of the survey.						
HYDROLOGY						
Wetland Hydrology Indicators:		Secondary Indicators (n	ninimum of two required)			
Primary Indicators (minimum of one is require	ed; check all that apply)	Surface Soil Cracks	s (B6)			
Surface Water (A1)	Water-Stained Leaves (BS	9) Drainage Patterns (	B10)			
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B	'			
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water	` ,			
Water Marks (B1)	Hydrogen Sulfide Odor (C					
Sediment Deposits (B2)	Oxidized Rhizospheres or	· · · · · · · · · · · · · · · · · · ·	n Aerial Imagery (C9)			
Drift Deposits (B3)	Presence of Reduced Iron	· '	` '			
Algal Mat or Crust (B4)	Recent Iron Reduction in Thin Muck Surface (C7)		` '			
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)		Shallow Aquitard (D s) Microtopographic R	,			
Sparsely Vegetated Concave Surface (B	·	FAC-Neutral Test (I				
Field Observations:						
	No X Depth (inches):					
Water Table Present? Yes	No X Depth (inches):					
Saturation Present? Yes	No X Depth (inches): No X Depth (inches):		Yes No X			
(includes capillary fringe)	·					
Describe Recorded Data (stream gauge, mor	nitoring well, aerial photos, previo	ous inspections), if available:				
Remarks: No indicators are met.						
US Army Corps of Engineers		Northcentral and I	Northeast Region - Version 2.0			

·	Absolute	Dominant	Indicator			
<u>Tree Stratum</u> (Plot size:)	% Cover	Species?	Status	Dominance Test worksheet:		
1				Number of Dominant Species		
2				That Are OBL, FACW, or FAC:	0	(A)
3				Total Number of Dominant		
4				Species Across All Strata:	1	(B)
5				Percent of Dominant Species		
6				That Are OBL, FACW, or FAC:	0.0%	_(A/B)
7				Prevalence Index worksheet:		
		=Total Cover		Total % Cover of:	Multiply by:	
Sapling/Shrub Stratum (Plot size:)				OBL species	x 1 =	
1				FACW species	x 2 =	
2				FAC species	x 3 =	
3				FACU species	x 4 =	
4				UPL species	x 5 =	
5				Column Totals:	(A)	(B)
6.				Prevalence Index = B/A	=	
7				Hydrophytic Vegetation Indica	ators:	
		=Total Cover		1 - Rapid Test for Hydrophy	tic Vegetation	
Herb Stratum (Plot size:5' )				2 - Dominance Test is >509	%	
1. Solidago canadensis	80	Yes	FACU	3 - Prevalence Index is ≤3.0	D <sup>1</sup>	
2. Toxicodendron radicans	25	No	FAC	4 - Morphological Adaptatio		oorting
3. Agrimonia parviflora	7	No	FAC	data in Remarks or on a	separate sheet)	
4. Euthamia graminifolia	7	No	FAC	Problematic Hydrophytic Ve	egetation <sup>1</sup> (Explai	n)
5. Lycopus americanus	2	No	OBL	<sup>1</sup> Indicators of hydric soil and we	tland hydrology m	nust be
6. Phalaris arundinacea	2	No	FACW	present, unless disturbed or pro		
7. Vernonia noveboracensis	2	No	FACW	Definitions of Vegetation Stra	ta:	
8. Fragaria vesca	2	No	UPL	Tree – Woody plants 3 in. (7.6 c	cm) or more in dia	ameter
9. Verbena urticifolia	2	No	FAC	at breast height (DBH), regardle		
10. Parthenocissus quinquefolia	2	No	FACU	Sapling/shrub – Woody plants	less than 3 in Di	RH and
11. Oxalis corniculata	1	No	FACU	greater than or equal to 3.28 ft (		or r and
12. Rubus allegheniensis	1	No	FACU	Herb – All herbaceous (non-wo	ody) plants regar	dlace d
	133	=Total Cover		size, and woody plants less than		uicss c
Woody Vine Stratum (Plot size:30')				Woody vines – All woody vines	areater than 3.2	R ft in
1.				height.	greater than 5.2	0 10 111
2.						
3.				Hydrophytic Vegetation		
4.				Present? Yes	No X	
		-Total Cover				

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

No test is met. Photograph C-21.

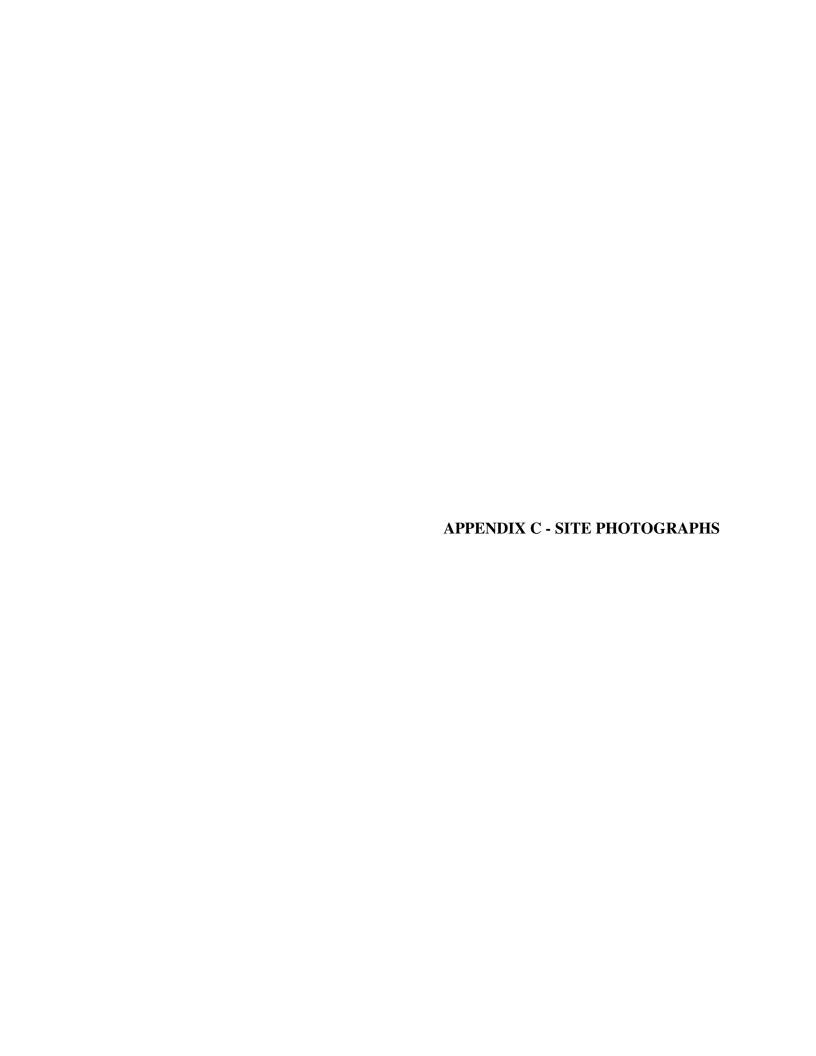
SOIL Sampling Point: 21

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

	Matrix Color (moist)	%	Color (moist)	x Feature	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-16	10YR 4/1	95	10YR 4/6	5	С	M	Loamy/Clayey	Prominent redox concentrations	
							_		
							_		
<u>.</u>									
Tuno: C Cor		- DM D	laduaad Matrix, MC	Maaka	d Sand C	roine	<sup>2</sup> l acation: Pl	=Pore Lining, M=Matrix.	
Hydric Soil In		ii, Rivi=n	leduced Matrix, MS	=IVIaske	J Sand G	rains.		Problematic Hydric Soils <sup>3</sup> :	
Histosol (A			Polyvalue Belov	w Surfac	e (S8) ( <b>LI</b>	RR R.		k (A10) ( <b>LRR K, L, MLRA 149B</b> )	
	pedon (A2)	_	MLRA 149B)		- ()(	,		irie Redox (A16) (LRR K, L, R)	
Black Hist			Thin Dark Surfa	ace (S9)	(LRR R,	MLRA 149		ky Peat or Peat (S3) ( <b>LRR K, L, R</b> )	
Hydrogen	Sulfide (A4)		High Chroma S	ands (S	11) ( <b>LRR</b>	K, L)	Polyvalue Below Surface (S8) (LRR K, L)		
Stratified I	Layers (A5)	_	Loamy Mucky N	Mineral (I	=1) ( <b>LRR</b>	K, L)	Thin Dark Surface (S9) (LRR K, L)		
	Below Dark Surface (A	11) _	Loamy Gleyed Matrix (F2)				Iron-Mang	anese Masses (F12) ( <b>LRR K, L, R</b> )	
	k Surface (A12)	_	Depleted Matrix	` '				Floodplain Soils (F19) (MLRA 149B)	
	icky Mineral (S1)	_	X Redox Dark Su				<del></del> ·	odic (TA6) ( <b>MLRA 144A, 145, 149B</b> )	
	eyed Matrix (S4)	_	Depleted Dark					nt Material (F21)	
Sandy Red Stripped M	, ,	-	Redox Depress Marl (F10) ( <b>LR</b> i		)			low Dark Surface (F22) plain in Remarks)	
Dark Surfa		-	IMAIT (1 TO) (ETT	ıı ıx, ∟)			Other (EX	plant in Hemarks)	
Dain Guile	acc (07)								
			and hydrology must	be pres	ent, unles	s disturbe	d or problematic.		
Indicators of h	nydrophytic vegetation	and wetla					·		
	nydrophytic vegetation a ayer (if observed):	and wetla	and nydrology made						
		and wetla							
Restrictive La	ayer (if observed):	and wetta					Hydric Soil Present	? Yes X No	
Restrictive La Type: Depth (inc	ayer (if observed):	and wetta					Hydric Soil Present	? Yes X No	
Restrictive La Type: Depth (inc	ches):			nal Supp	lement Ve	ersion 2.0	-	? Yes X No	
Restrictive La Type: Depth (inc Remarks: This data form	ches):	central an	d Northeast Region				to include the NRCS Fi		
Restrictive La Type: Depth (inc Remarks: This data form	ches):	central an	d Northeast Region				to include the NRCS Fi		
Restrictive La Type: Depth (inc Remarks: This data form	ches):	central an	d Northeast Region				to include the NRCS Fi	<u> </u>	
Restrictive La Type: Depth (inc Remarks: This data form	ches):	central an	d Northeast Region				to include the NRCS Fi		
Restrictive La Type: Depth (inc Remarks: This data form	ches):	central an	d Northeast Region				to include the NRCS Fi		
Restrictive La Type: Depth (inc Remarks: This data form	ches):	central an	d Northeast Region				to include the NRCS Fi	<u> </u>	
Restrictive La Type: Depth (inc Remarks: This data form	ches):	central an	d Northeast Region				to include the NRCS Fi	<u> </u>	
Restrictive La Type: Depth (inc Remarks: This data form	ches):	central an	d Northeast Region				to include the NRCS Fi	<u> </u>	
Restrictive La Type: Depth (inc Remarks: This data form	ches):	central an	d Northeast Region				to include the NRCS Fi	<u> </u>	
Restrictive La Type: Depth (inc Remarks: This data form	ches):	central an	d Northeast Region				to include the NRCS Fi	<u> </u>	
Restrictive La Type: Depth (inc Remarks: This data form	ches):	central an	d Northeast Region				to include the NRCS Fi		

Army Corps of Engineers

Northcentral and Northeast Region - Version





Photograph C-1: View of Sample Plot (SP)-1 located in palustrine emergent (PEM) Wetland (W)-1, facing southeast.



Photograph C-2: View of upland SP-2, facing southeast.





Photograph C-3: View of SP-3 located in PEM portion of W-2, facing northeast.



Photograph C-4: View of SP-4 located in palustrine forested (PFO) portion of W-2, facing northeast.





Photograph C-5: View of upland SP-5, facing northeast.



Photograph C-6: View of SP-6 located in PFO W-3, facing northeast.





Photograph C-7: View of SP-7 located in PEM portion of W-4, facing northeast.



Photograph C-8: View of SP-8 located in PFO portion of W-4, facing north.





Photograph C-9: View of SP-9 located in PEM W-5, facing west.



Photograph C-10: View of upland SP-10, facing west.





Photograph C-11: View of upland SP-11, facing west.



Photograph C-12: View of upland SP-12, facing west.





Photograph C-13: View of SP-13 located in PEM W-6, facing west.



Photograph C-14: View of SP-14 located in PEM portion of W-7, facing east.





Photograph C-15: View of upland SP-15, facing southeast.



Photograph C-16: View of SP-16 located in PEM portion of W-8, facing east.





Photograph C-17: View of SP-17 located in PFO W-8, facing north.



Photograph C-18: View of upland SP-18, facing west.





Photograph C-19: View of SP-19 located in PFO W-9, facing northwest.



Photograph C-20: View of SP-20 located in PEM W-9, facing north.





Photograph C-21: View of upland SP-21, facing east.



Photograph C-22: View of intermittent Stream (S)-1, facing north.





Photograph C-23: View of intermittent S-2, facing west.



Photograph C-24: View of intermittent S-3, facing south.





Photograph C-25: View of intermittent S-4, facing south.



Photograph C-26: Open Water pond near Illinois Avenue and Mingo Drive intersection.





Photograph C-27: Retention pond located on the east side of Mingo Drive.



Photograph C-28: Open Water pond located west of Mingo Drive.





Photograph C-29: View of representative maintained lawn and upland grassland habitat, facing southwest.



Photograph C-30: View of representative upland forest habitat, facing northeast.





Photograph C-31: View of urbanized area, facing north.



Photograph C-32: Representative photo of active agriculture, facing east.



APPENDIX D - OHIO RAPID ASSESSMENT METHOD (ORAM) FORMS

## **Background Information**

Name: Brooke Harrison

Date: June 30, 2020

Affiliation: Burns & McDonnell

Address: 530 West Spring Street, Suite 200 Columbus, OH 43215

Phone Number: 380-390-2516

e-mail address: bharrison@burnsmcd.com

Name of Wetland: W-1

Vegetation Communit(ies): PEM

HGM Class(es):

Depressional

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

Please refer to site map for wetland location.

Lat/Long or UTM Coordinate	NAD 1983 StatePlane Ohio North
USGS Quad Name	Maumee
County	Lucas
Township	
Section and Subsection	
Hydrologic Unit Code	04100009
Site Visit	06/30/2020
National Wetland Inventory Map	
Ohio Wetland Inventory Map	
Soil Survey	X
Delineation report/map	X

Name of Wetland: W-1	
Wetland Size (acres, hectares):	0.01 acre
Sketch: Include north arrow, relationship with other surface waters, vegetation zone	s, etc.
Sketch: Include north arrow, relationship with other surface waters, vegetation zone Please refer to site map for wetland location.	s, etc.
Comments, Narrative Discussion, Justification of Category Changes:	
Einal agora : 6	Catagony
Final score: 6	Category: 1

#### **Scoring Boundary Worksheet**

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
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.	х	
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.	х	
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.	х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		Х
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.		х

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), <a href="http://www.dnr.state.oh.us/dnap">http://www.dnr.state.oh.us/dnap</a>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	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	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?	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?	YES 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	Go 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	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	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	Go 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?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
	diameters greater than 450m (17.7m) dum:	Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	NO
	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 9b	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	YES	NO
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible Category 3 status	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	Go to Question 10 YES	NO
30	i.e. the wetland is hydrologically unrestricted (no lakeward or upland	ILS	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These	Go to Question 9d	Go to Question 10
	include sandbar deposition wetlands, estuarine wetlands, river mouth		
9d	wetlands, or those dominated by submersed aquatic vegetation.  Does the wetland have a predominance of native species within its	YES	NO
ou	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Co to Quodion 10
		Category 3 status	
		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	YES	
	characterized by the following description: the wetland has a sandy	Wetland is a Category 3 wetland.	Go to Question 11
	substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	5 wettand.	
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of	Go to Question 11	
	Natural Areas and Preserves can provide assistance in confirming this		
11	type of wetland and its quality.  Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	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	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	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		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

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

Site:	e: NiSource			e Harrison	Date: 06/30/2020	
	l					
1	1	Metric 1. Wetland Area	ı (size	).		
max 6 pts.	subtotal	Select one size class and assign sco	re.	•		
		>50 acres (>20.2ha) (6 pts)				
		25 to <50 acres (10.1 to <20.2 10 to <25 acres (4 to <10.1 ha			wetland	expands offsite
		3 to <10 acres (1.2 to <4 ha) (3			wctiana	expands onsite
		0.3 to < 3 acres (012 to <1.2ha				
		X 0.1 to <0.3 acres (0.04 to <0.1	2ha) (1 pt)			
	1	<0.1 acres (0.04ha) (0 pts)				
1	2	Metric 2. Upland buffe	rs and	l surrounding land	d use	
max 14 pts.	subtotal	2a. Calculate average buffer width. Select		•		
			-	nore around wetland perimeter (7		
				(82 to <164ft) around wetland pe		
				n (32ft to <82ft) around wetland parimeter		
		<ul> <li>X VERY NARROW. Buffers ave</li> <li>2b. Intensity of surrounding land use. Selection</li> </ul>	-	n (<32ft) around wetland perimete	er (u)	
				prairie, savannah, wildlife area, e	etc. (7)	
		LOW. Old field (>10 years), sl	nrubland, y	oung second growth forest. (5)		
				ed pasture, park, conservation till	_	ow field. (3)
		χ HIGH. Urban, industrial, open	pasture, re	ow cropping, mining, construction	1. (1)	
5	7	Metric 3. Hydrology.				
max 30 pts.	subtotal	3a. Sources of Water. Score all that apply	<i>/</i> .		3b. Connect	ivity. Score all that apply.
		High pH groundwater (5)				100 year floodplain (1)
		Other groundwater (3)				Between stream/lake and other human use (1)
		X Precipitation (1)	water (2)			Part of wetland/upland (e.g. forest), complex (1)
		Seasonal/Intermittent surface  Perennial surface water (lake of	` '	5)		Part of riparian or upland corridor (1) inundation/saturation. Score one or dbl check.
		3c. Maximum water depth. Select only on	,	· ·	· .	Semi- to permanently inundated/saturated (4)
		>0.7 (27.6in) (3)				Regularly inundated/saturated (3)
		0.4 to 0.7m (15.7 to 27.6in) (2)	1			Seasonally inundated (2)
		χ <0.4m (<15.7in) (1)  3e. Modifications to natural hydrologic regi	me Score	one or double check and average		Seasonally saturated in upper 30cm (12in) (1)
		None or none apparent (12)		l disturbances observed	9	
		Recovered (7)	Х	ditch		point source (nonstormwater)
		Recovering (3)		tile		filling/grading
		X Recent or no recovery (1)	-	dike weir		road bed/RR track dredging
				stormwater input		Other
				,		
0	10			15 1		
3	10	Metric 4. Habitat Alterr		•	t.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one or o	louble che	ck and average.		
		Recovered (3)				
		Recovering (2)				
		X Recent or no recovery (1)				
		4b. Habitat development. Select only one Excellent (7)	and assigi	n score.		
		Very good (6)				
		Good (5)				
		Moderately good (4)				
		Fair (3)				
		Poor to fair (2) X Poor (1)				
		4c. Habitat alteration. Score one or double	e check an	d average.		
		None or none apparent (9)	Check al	disturbances observed		
		Recovered (6)		mowing		shrub/sapling removal
		Recovering (3)  Recent or no recovery (1)	ļ	grazing clearcutting		herbaceous/aquatic bed removal sedimentation
	40	χ Recent or no recovery (1)	-	selective cutting		dredging
	10			woody debris removal		farming
SI	ubtotal this page		Х	toxic pollutants	Х	nutrient enrichment

Site:	NISour	ce	Broo	oke Harrison	Date: 06/30/2020
s	10	de.			
0	10	7	c 5. Special Wetlands.		
max 10 pts.	subtotal		that apply and score as indicated.		
			Bog (10)		
			Fen (10)		
			<b>=</b> ` ´		
			Old growth forest (10)		
			Mature forested wetland (5)		
			Lake Erie coastal/tributary wetland -ur		
			Lake Erie coastal/tributary wetland-res	stricted hydrology (5)	
			Lake Plain Sand Prairies (Oak Openin	igs) (10)	
			Relict Wet Prairies (10)		
			Known occurrence state/federal threat	ened or endangered species (10)	
			Significant migratory songbird/water for	owl habitat or usage (10)	
			Category 1 Wetland. See Question 1	Qualitative Rating (-10)	
-4	6	Metri	c 6. Plant communitie	s. interspersion. m	nicrotopography.
max 20 pts.	subtotal		and Vegetation Communities.	Vegatation Community Cove	
			present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
			Aquatic bed	1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of
		1	Emergent	ı	low quality
			Shrub		Present and either comprises significant part of wetland's
			Forest	2	vegetation and is of moderate quality, or comprises a small part and is of high quality.
			Mudflats		Present and comprises significant part, or more, of wetland's
			Open Water	3	vegetation and is of high quality.
			<b>∃</b> `		
		6b. Horiz	Other contal (plan view) Interspersion.	Narrative Description of Veg	getation Quality
		Score onl			Low spp diversity and/or predominance of nonnative or
			High (5)	low	disturbance tolerant native species
			Moderately high (4)	mod	Native spp are dominant component of the vegetation, although
			Moderate (3)		nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but
			Moderately low (2)		generally w/o presence of rare, threatened, or endangered spp
			Low (1)	high	A predominance of native species, with nonnative spp and/or
		X	None (0)		disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare,
			rage of invasive plants. Refer to		threatened, or endangered spp
			DRAM long form for list. Add or	Mudflat and Open Water Cla	•
			oints for coverage.	0	Absent <0.1ha (0.247 acres)
		Х	Extensive >75% cover (-5)	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
			Moderate 25-75% cover (-3)	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
			Sparse 5-25% cover (-1)	3	High 4ha (9.88 acres) or more
			Nearly absent <5% cover (0)	Microtopography Cover Sca	ale
			Absent (1)	0	Absent
			otopography.	1	Present in very small amounts or if more common of marginal
		o Score all	present using 0 to 3 scale.		quality
		-	Vegetated hummucks/tussucks	2	Present in moderate amounts, but not of highest quality or in small
		0	Coarse woody debris >15cm (6in)		amounts of highest quality
		0	Standing dead >25cm (10in) dbh	3	
	•	0	Amphibian breeding pools		Present in moderate or greater amounts and of highest quality
6	GRAN	D TOT	AL (max 100 pts)		

# **ORAM Summary Worksheet**

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
, aung	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	5	
	Metric 4. Habitat	3	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-4	
	TOTAL SCORE	6	Category based on score breakpoints Cat. 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	Is quantitative rating score less than the Category 2 scoring threshold (excluding 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	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES  Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES  Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit 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?	YES  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

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

## **Background Information**

Name: Brooke Harrison

Date: 06/30/2020

Affiliation: Burns & McDonnell

Address: 530 West Spring Street, Suite 200 Columbus, OH 43215

Phone Number: 380-390-2516

e-mail address: bharrison@burnsmcd.com

Name of Wetland: W-2

Vegetation Communit(ies): PEM/PFO

HGM Class(es):

Depressional

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

Please refer to site map for wetland location.

Lat/Long or UTM Coordinate	NAD 1983 StatePlane Ohio South
USGS Quad Name	Maumee
County	Lucas
Township	
Section and Subsection	
Hydrologic Unit Code	04100009
Site Visit	06/30/2020
National Wetland Inventory Map	
Ohio Wetland Inventory Map	
Soil Survey	Х
Delineation report/map	Х

Name of Wetland: W-2	
Wetland Size (acres, hectares):	0.68 acre
Sketch: Include north arrow, relationship with other surface waters, vegetation zones	, etc.
Please refer to site map for wetland location.	, etc.
Comments, Narrative Discussion, Justification of Category Changes:	
Final score: 07.5	Catogory
Final score: 27.5	Category: 1

#### **Scoring Boundary Worksheet**

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
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.	х	
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.	х	
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.	х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		Х
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.		х

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), <a href="http://www.dnr.state.oh.us/dnap">http://www.dnr.state.oh.us/dnap</a>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	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	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?	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?	YES 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	Go 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	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	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	Go 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?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
	diameters greater than 450m (17.7m) dbm:	Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	NO
	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 9b	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	YES	NO
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible Category 3 status	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	Go to Question 10 YES	NO
30	i.e. the wetland is hydrologically unrestricted (no lakeward or upland	ILS	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These	Go to Question 9d	Go to Question 10
	include sandbar deposition wetlands, estuarine wetlands, river mouth		
9d	wetlands, or those dominated by submersed aquatic vegetation.  Does the wetland have a predominance of native species within its	YES	NO
ou	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Co to Quodion 10
		Category 3 status	
		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	YES	
	characterized by the following description: the wetland has a sandy	Wetland is a Category 3 wetland.	Go to Question 11
	substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	5 wettand.	
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of	Go to Question 11	
	Natural Areas and Preserves can provide assistance in confirming this		
11	type of wetland and its quality.  Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	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	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	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		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

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

Site: NiSource		ce	Brooke Harrison		Date: 06/30/2020	
		]				
2	2	Metric 1. Wetland Area	a (size).			
max 6 pts.	subtotal	Select one size class and assign sco	ore.			
		>50 acres (>20.2ha) (6 pts)	Nha) (F pta)			
		25 to <50 acres (10.1 to <20.2 10 to <25 acres (4 to <10.1 ha		wetland	expands offsite	
		3 to <10 acres (1.2 to <4 ha) (				
		X 0.3 to < 3 acres (012 to <1.2h				
		0.1 to <0.3 acres (0.04 to <0.1 <0.1 acres (0.04ha) (0 pts)	(1 pt)			
		(0.1 dores (0.041ld) (0 pts)				
4	6	•	rs and surrounding lan			
max 14 pts.	subtotal		et only one and assign score. Do not double			
			(164 ft) or more around wetland perimeter ( 5m to <50m (82 to <164ft) around wetland p			
			0m to <25m (32ft to <82ft) around wetland			
			erage <10m (<32ft) around wetland perimet	ter (0)		
		2b. Intensity of surrounding land use. Sel VERY LOW. 2nd growth or o	lder forest, prairie, savannah, wildlife area,	etc. (7)		
			hrubland, young second growth forest. (5)	,		
			ential, fenced pasture, park, conservation ti	-	ow field. (3)	
		χ HIGH. Urban, industrial, oper	n pasture, row cropping, mining, constructio	n. (1)		
10	16	Metric 3. Hydrology.				
max 30 pts.	subtotal	3a. Sources of Water. Score all that appl	y.		tivity. Score all that apply.	
		High pH groundwater (5)			100 year floodplain (1) Between stream/lake and other human use (1)	
		Other groundwater (3)  X Precipitation (1)			Part of wetland/upland (e.g. forest), complex (1)	
		Seasonal/Intermittent surface	water (3)		Part of riparian or upland corridor (1)	
		Perennial surface water (lake	* /	3d. Duration	n inundation/saturation. Score one or dbl check.	
		3c. Maximum water depth. Select only or >0.7 (27.6in) (3)	ne and assign score.		Semi- to permanently inundated/saturated (4) Regularly inundated/saturated (3)	
		0.4 to 0.7m (15.7 to 27.6in) (2	)	Х	Seasonally inundated (2)	
		X <0.4m (<15.7in) (1)	ima. Caara ana ar daybla abaak and ayara		Seasonally saturated in upper 30cm (12in) (1)	
		None or none apparent (12)	ime. Score one or double check and avera Check all disturbances observed	ige.		
		X Recovered (7)	X ditch		point source (nonstormwater)	
		X Recovering (3)	tile		filling/grading	
		Recent or no recovery (1)	dike weir	Х	road bed/RR track dredging	
			stormwater input	Х	Other-gas pipeline	
	1	1				
8.5	24.5	Metric 4 Habitat Alter	nation and Developmen	nt		
max 20 pts.	subtotal	4a. Substrate disturbance. Score one or	-	•••		
		None or none apparent (4)				
		Recovered (3)  X Recovering (2)				
		Recent or no recovery (1)				
		4b. Habitat development. Select only one	e and assign score.			
		Excellent (7) Very good (6)				
		Good (5)				
		Moderately good (4)				
		Fair (3)				
		X Poor to fair (2) Poor (1)				
		4c. Habitat alteration. Score one or doub	e check and average.			
		None or none apparent (9)	Check all disturbances observed			
		X Recovered (6) X Recovering (3)	mowing grazing		shrub/sapling removal herbaceous/aquatic bed removal	
		Recent or no recovery (1)	X clearcutting	X	sedimentation	
	24.5		selective cutting		dredging farming	
SL	ubtotal this page		χ woody debris removal toxic pollutants		nutrient enrichment	

Site:	NiSour	<u>ce</u>	<u></u>	Brooke Harrison	Date: 06/30/2020
SI	24.5 ubtotal first page	9			
0	24.5	Metric	5. Special Wetlan	ıds.	
max 10 pts.	subtotal		hat apply and score as indicated.		
			Bog (10)		
			Fen (10)		
			Old growth forest (10)		
			Mature forested wetland (5)		
			Lake Erie coastal/tributary wetla	nd -unrestricted hydrology (10)	
			Lake Erie coastal/tributary wetla	, ,,	
			Lake Plain Sand Prairies (Oak C		
			Relict Wet Prairies (10)	- r <del>3 -</del> / \	
			1	threatened or endangered species (10)	
			Significant migratory songbird/w	,	
			Category 1 Wetland. See Ques		
		N/a+:-	_ ~ <i>*</i>	J . ,	viorete no granky
3	_7.0			ities, interspersion, m	
max 20 pts.	subtotal		nd Vegetation Communities. resent using 0 to 3 scale.	Vegatation Community Cove	Absent or comprises <0.1ha (0.2471 acres) contiguous area
		pi	Aquatic bed		Present and either comprises small part of wetland's vegetation
		1	Emergent	1	and is of moderate quality, or comprises a significant part but is of low quality
			Shrub		Present and either comprises significant part of wetland's
		1	Forest	2	vegetation and is of moderate quality, or comprises a small part and is of high quality.
		<u> </u>	Mudflats		Present and comprises significant part, or more, of wetland's
			Open Water	3	vegetation and is of high quality.
			-		
		6b. Horizon	Otherntal (plan view) Interspersion.	Narrative Description of Veg	etation Quality
		Score only	. , .		Low spp diversity and/or predominance of nonnative or
			High (5)	low	disturbance tolerant native species
			Moderately high (4)	mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be
			Moderate (3)		present, and species diversity moderate to moderately high, but
			Moderately low (2)		generally w/o presence of rare, threatened, or endangered spp
		Х	Low (1)	high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high
			None (0)		spp diversity and often, but not always, the presence of rare,
			age of invasive plants. Refer to	Manager and O. W. C.	threatened, or endangered spp
			RAM long form for list. Add or not not a control of the coverage.	Mudflat and Open Water Class	ss Quality Absent <0.1ha (0.247 acres)
		p. 4-1	Extensive >75% cover (-5)	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
			Moderate 25-75% cover (-3)	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
			Sparse 5-25% cover (-1)	3	High 4ha (9.88 acres) or more
		Х	Nearly absent <5% cover (0)	Microtopography Cover Scal	Ü ,
			1	0	Absent
		6d. Microto	Absent (1) ppography.		Present in very small amounts or if more common of marginal
			resent using 0 to 3 scale.	1	quality
		0	Vegetated hummucks/tussucks	2	Present in moderate amounts, but not of highest quality or in small
		0	Coarse woody debris >15cm (6ii		amounts of highest quality
		0	Standing dead >25cm (10in) dbl	h 3	
		0	Amphibian breeding pools		Present in moderate or greater amounts and of highest quality
27.5	GRANI	TOT C	AL (max 100 pts)		

## **ORAM Summary Worksheet**

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
J	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	10	
	Metric 4. Habitat	8.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	27.5	Category based on score breakpoints  Cat. 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	Is quantitative rating score less than the Category 2 scoring threshold (excluding 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	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES  Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES  Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit 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?	YES  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

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

### **Background Information**

name:	Brooke Harriso	n
	DIOUNE HAILISU	

Date: 06/30/2020

Affiliation: Burns & McDonnell

Address: 530 West Spring Street, Suite 200 Columbus, OH 43215

Phone Number: 380-390-2516

e-mail address: bharrison@burnsmcd.com

Name of Wetland: W-3

Vegetation Communit(ies): PFO

HGM Class(es):

Depressional

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

Please refer to site map for wetland location.

Lat/Long or UTM Coordinate	NAD 1983 StatePlane Ohio South
USGS Quad Name	Maumee
County	Lucas
Township	
Section and Subsection	
Hydrologic Unit Code	04100009
Site Visit	06/30/2020
National Wetland Inventory Map	
Ohio Wetland Inventory Map	
Soil Survey	Х
Delineation report/map	Х

Name of Wetland: W-3	
Wetland Size (acres, hectares):	2.10 acre
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.  Please refer to site map for wetland location.  Comments, Narrative Discussion, Justification of Category Changes:	
commonacy, named 2 icourselong casemonation of category changes.	
Final score : 40 Cat	tegory: 1

#### **Scoring Boundary Worksheet**

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
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.	х	
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.	х	
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.	х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		Х
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.		х

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), <a href="http://www.dnr.state.oh.us/dnap">http://www.dnr.state.oh.us/dnap</a>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	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	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?	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?	YES 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	Go 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	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	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	Go 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?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
	diameters greater than 450m (17.7m) dbm:	Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	NO
	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 9b	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	YES	NO
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible Category 3 status	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	Go to Question 10 YES	NO
30	i.e. the wetland is hydrologically unrestricted (no lakeward or upland	ILS	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These	Go to Question 9d	Go to Question 10
	include sandbar deposition wetlands, estuarine wetlands, river mouth		
9d	wetlands, or those dominated by submersed aquatic vegetation.  Does the wetland have a predominance of native species within its	YES	NO
ou	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Co to Quodion 10
		Category 3 status	
		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	YES	
	characterized by the following description: the wetland has a sandy	Wetland is a Category 3 wetland.	Go to Question 11
	substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	5 wettand.	
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of	Go to Question 11	
	Natural Areas and Preserves can provide assistance in confirming this		
11	type of wetland and its quality.  Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	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	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	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		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

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

Site:	NiSour	e	Brooke Harrison		Date: 06/30/2020
2	2	Metric 1. Wetland Area	a (size).		
max 6 pts.	subtotal	Select one size class and assign sc	ore.		
		>50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.3	2ha) (5 pts)		
		10 to <25 acres (4 to <10.1 ha	a) (4 pts)		
		3 to <10 acres (1.2 to <4 ha)			
		X 0.3 to < 3 acres (012 to <1.2h 0.1 to <0.3 acres (0.04 to <0.			
		<0.1 acres (0.04ha) (0 pts)	, ,		
7	9	Metric 2 Unland huffe	ers and surrounding lan	d usa	
max 14 pts.	subtotal	•	ct only one and assign score. Do not double		
			(164 ft) or more around wetland perimeter (		
			5m to <50m (82 to <164ft) around wetland p 10m to <25m (32ft to <82ft) around wetland		
			erage <10m (<32ft) around wetland perime		
		2b. Intensity of surrounding land use. Se	_		
			lder forest, prairie, savannah, wildlife area, shrubland, young second growth forest. (5)	etc. (7)	
			ential, fenced pasture, park, conservation to	illage, new fall	ow field. (3)
	ı	X HIGH. Urban, industrial, oper	n pasture, row cropping, mining, construction	n. (1)	
12	21	Metric 3. Hydrology.			
max 30 pts.	subtotal	3a. Sources of Water. Score all that appl	y.	3b. Connec	tivity. Score all that apply.
		High pH groundwater (5)			100 year floodplain (1)
		Other groundwater (3)  X Precipitation (1)		-	Between stream/lake and other human use (1) Part of wetland/upland (e.g. forest), complex (1)
		Seasonal/Intermittent surface	water (3)	Х	Part of riparian or upland corridor (1)
		Perennial surface water (lake		3d. Duration	inundation/saturation. Score one or dbl check.
		3c. Maximum water depth. Select only or >0.7 (27.6in) (3)	ne and assign score.		Semi- to permanently inundated/saturated (4) Regularly inundated/saturated (3)
		0.4 to 0.7m (15.7 to 27.6in) (2	?)	Х	Seasonally inundated (2)
		X <0.4m (<15.7in) (1)			Seasonally saturated in upper 30cm (12in) (1)
		None or none apparent (12)	gime. Score one or double check and avera  Check all disturbances observed	age.	
		X Recovered (7)	ditch		point source (nonstormwater)
		Recovering (3)	tile		filling/grading
		Recent or no recovery (1)	dike weir	X	road bed/RR track dredging
			stormwater input		Other
	ı	•			
14	35	Metric 4. Habitat Alter	nation and Developmer	nt.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one or			
		None or none apparent (4)			
		χ Recovered (3) Recovering (2)			
		Recent or no recovery (1)			
		4b. Habitat development. Select only one Excellent (7)	e and assign score.		
		Very good (6)			
		X Good (5)			
		Moderately good (4) Fair (3)			
		Poor to fair (2)			
		Poor (1)	le sheek and average		
		4c. Habitat alteration. Score one or doub  None or none apparent (9)	Check all disturbances observed		
		X Recovered (6)	mowing		shrub/sapling removal
		Recovering (3) Recent or no recovery (1)	grazing clearcutting		herbaceous/aquatic bed removal sedimentation
ĺ	25	resources in the recovery (1)	selective cutting	Х	dredging
	35		woody debris removal		farming
SI	ubtotal this page	•	toxic pollutants		nutrient enrichment

Site:	NiSour	ce		Brooke Harrison	Date: 06/30/2020
	35	]			
	ubtotal first pag	1	E Chesial Wattan	ada.	
0	35		5. Special Wetlan	ias.	
max 10 pts.	subtotal	oneck all th	nat apply and score as indicated.		
			Bog (10)		
			Fen (10)		
			Old growth forest (10)		
			Mature forested wetland (5)		
			Lake Erie coastal/tributary wetla		
			Lake Erie coastal/tributary wetla		
			Lake Plain Sand Prairies (Oak C	openings) (10)	
			Relict Wet Prairies (10)		
			†	threatened or endangered species (10)	
			Significant migratory songbird/w	- ' '	
	T		Category 1 Wetland. See Ques	tion 1 Qualitative Rating (-10)	
5	40	Metric	6. Plant commun	ities, interspersion, m	icrotopography.
max 20 pts.	subtotal		nd Vegetation Communities.	Vegatation Community Cover	
		Score all pr	resent using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area  Present and either comprises small part of wetland's vegetation
			Aquatic bed	1	and is of moderate quality, or comprises a significant part but is of
			Emergent		low quality  Present and either comprises significant part of wetland's
			Shrub	2	vegetation and is of moderate quality, or comprises a small part
		2	Forest		and is of high quality.  Present and comprises significant part, or more, of wetland's
			Mudflats	3	vegetation and is of high quality.
			Open Water		
		Ch. IIi	Other	Nametica Paradistica (17)	atetian Quality
		6b. Horizon Score only	ntal (plan view) Interspersion. one.	Narrative Description of Vege	Low spp diversity and/or predominance of nonnative or
			High (5)	low	disturbance tolerant native species
			Moderately high (4)	mod	Native spp are dominant component of the vegetation, although
			Moderate (3)		nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but
			Moderately low (2)		generally w/o presence of rare, threatened, or endangered spp
			Low (1)	high	A predominance of native species, with nonnative spp and/or
		X	None (0)		disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare,
			age of invasive plants. Refer to		threatened, or endangered spp
			RAM long form for list. Add or	Mudflat and Open Water Clas	-
		aeduct poir	nts for coverage.	0	Absent <0.1ha (0.247 acres)
			Extensive >75% cover (-5)	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
			Moderate 25-75% cover (-3)	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
			Sparse 5-25% cover (-1)	3	High 4ha (9.88 acres) or more
			Nearly absent <5% cover (0)	Microtopography Cover Scale	e
		X 6d Migrata	Absent (1)	0	Absent Present in very small amounts or if more common of marginal
		6d. Microto Score all pr	opograpny. resent using 0 to 3 scale.	1	quality
		0	Vegetated hummucks/tussucks		Proport in moderate amounts, but not of highest quality as in small
		1	Coarse woody debris >15cm (6i	2 n)	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
		1	Standing dead >25cm (10in) dbl	<u></u>	
	3	0	Amphibian breeding pools	3	Present in moderate or greater amounts and of highest quality
40	GRANI	D TOT	AL (max 100 pts)		

# **ORAM Summary Worksheet**

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
·g	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	14	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	5	
	TOTAL SCORE	40	Category based on score breakpoints
			Mod. Cat. 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	Is quantitative rating score less than the Category 2 scoring threshold (excluding 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	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES  Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES  Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	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?	YES  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	

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

### **Background Information**

Name: Brooke Harrison

Date: 06/30/2020

Affiliation: Burns & McDonnell

Address: 530 West Spring Street, Suite 200 Columbus, OH 43215

Phone Number: 380-390-2516

e-mail address: bharrison@burnsmcd.com

Name of Wetland: W-4

Vegetation Communit(ies): PEM/PFO

HGM Class(es):

Depressional

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

Please refer to site map for wetland location.

Lat/Long or UTM Coordinate	NAD 1983 StatePlane Ohio South
USGS Quad Name	Maumee
County	Lucas
Township	
Section and Subsection	
Hydrologic Unit Code	04100009
Site Visit	06/30/2020
National Wetland Inventory Map	
Ohio Wetland Inventory Map	
Soil Survey	X
Delineation report/map	Х

Name of Wetland: ₩-4		
Wetland Size (acres, hectares):		0.23 acre
Sketch: Include north arrow, relationship with other surface waters, vegetation zones	s, etc.	
Please refer to site map for wetland location.		
Comments, Narrative Discussion, Justification of Category Changes:		
Final score: 22.5	Category:	1
1 IIIdi 30016 . 44.0	Jalegui y.	I

#### **Scoring Boundary Worksheet**

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
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.	х	
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.	х	
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.	х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		Х
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.		х

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), <a href="http://www.dnr.state.oh.us/dnap">http://www.dnr.state.oh.us/dnap</a>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	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	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?	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?	YES 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	Go 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	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	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	Go 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?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
	diameters greater than 450m (17.7m) dbm:	Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	NO
	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 9b	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	YES	NO
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible Category 3 status	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	Go to Question 10 YES	NO
30	i.e. the wetland is hydrologically unrestricted (no lakeward or upland	ILS	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These	Go to Question 9d	Go to Question 10
	include sandbar deposition wetlands, estuarine wetlands, river mouth		
9d	wetlands, or those dominated by submersed aquatic vegetation.  Does the wetland have a predominance of native species within its	YES	NO
ou	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Co to Quodion 10
		Category 3 status	
		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	YES	
	characterized by the following description: the wetland has a sandy	Wetland is a Category 3 wetland.	Go to Question 11
	substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	5 wettand.	
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of	Go to Question 11	
	Natural Areas and Preserves can provide assistance in confirming this		
11	type of wetland and its quality.  Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	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	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	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		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

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

Site:	Site: NiSource		Brooke Harrison		Date: 06/30/2020
		1			
1	1	Metric 1. Wetland Area	a (size).		
max 6 pts.	subtotal	Select one size class and assign sco	ore.		
		>50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2	Pha) (5 ptc)		
		10 to <25 acres (4 to <10.1 ha			
		3 to <10 acres (1.2 to <4 ha) (			
		0.3 to < 3 acres (012 to <1.2h			
		X 0.1 to <0.3 acres (0.04 to <0.1 <0.1 acres (0.04ha) (0 pts)	2na) (1 pt)		
				_	
3	4	•	rs and surrounding lan		
max 14 pts.	subtotal		et only one and assign score. Do not double (164 ft) or more around wetland perimeter (		
			5m to <50m (82 to <164ft) around wetland p	•	
			0m to <25m (32ft to <82ft) around wetland		
		X VERY NARROW. Buffers average.  2b. Intensity of surrounding land use. Sel	erage <10m (<32ft) around wetland perimet ect one or double check and average	er (0)	
			lder forest, prairie, savannah, wildlife area,	etc. (7)	
			hrubland, young second growth forest. (5)		
			ential, fenced pasture, park, conservation ti	-	ow field. (3)
_		Than . Orban, maasinar, oper	r pastare, row cropping, mining, construction	11. (1)	
8	12	Metric 3. Hydrology.			
max 30 pts.	subtotal	3a. Sources of Water. Score all that appl	у.		tivity. Score all that apply.
		High pH groundwater (5) Other groundwater (3)			100 year floodplain (1) Between stream/lake and other human use (1)
		X Precipitation (1)			Part of wetland/upland (e.g. forest), complex (1)
		Seasonal/Intermittent surface	` '		Part of riparian or upland corridor (1)
		Perennial surface water (lake 3c. Maximum water depth. Select only or	* *		n inundation/saturation. Score one or dbl check. Semi- to permanently inundated/saturated (4)
		>0.7 (27.6in) (3)	o and accign coord.		Regularly inundated/saturated (3)
		0.4 to 0.7m (15.7 to 27.6in) (2	)	Х	Seasonally inundated (2)
		X <0.4m (<15.7in) (1)  3e. Modifications to natural hydrologic reg	ime. Score one or double check and avera	ige.	Seasonally saturated in upper 30cm (12in) (1)
		None or none apparent (12)	Check all disturbances observed		
		Recovered (7)	X ditch		point source (nonstormwater)
		X Recovering (3)  Recent or no recovery (1)	tile dike		filling/grading road bed/RR track
		, , ,	weir		dredging
			stormwater input	Х	Other-gas pipeline
		1	<u> </u>		
8.5	20.5	Metric 4. Habitat Alteri	nation and Developmen	ıt.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one or	double check and average.		
		None or none apparent (4)  Recovered (3)			
		X Recovering (2)			
		Recent or no recovery (1)	and posine poors		
		4b. Habitat development. Select only one Excellent (7)	and assign score.		
		Very good (6)			
		Good (5)			
		Moderately good (4) Fair (3)			
		X Poor to fair (2)			
		Poor (1)	a de ada and arrana		
		4c. Habitat alteration. Score one or double None or none apparent (9)	e check and average.  Check all disturbances observed		
		X Recovered (6)	mowing		shrub/sapling removal
		X Recovering (3)	grazing		herbaceous/aquatic bed removal
I		Recent or no recovery (1)	χ clearcutting selective cutting	Λ	sedimentation dredging
	20.5		x woody debris removal		farming
SI	ubtotal this page		toxic pollutants		nutrient enrichment

Site:	NISour	<u>ce</u>	Brook	e Harrison	Date: 06/30/2020
s	20.5	e			
0	20.5	Metric	5. Special Wetlands.		
max 10 pts.	subtotal		nat apply and score as indicated.		
			Bog (10)		
			Fen (10)		
			Old growth forest (10)		
			Mature forested wetland (5)		
			1	atriated budgalagy (10)	
			Lake Erie coastal/tributary wetland -unres	5 55 ( )	
			Lake Erie coastal/tributary wetland-restric		
			Lake Plain Sand Prairies (Oak Openings	) (10)	
			Relict Wet Prairies (10)		
			Known occurrence state/federal threaten	,	
			Significant migratory songbird/water fowl		
	I		Category 1 Wetland. See Question 1 Qu	alitative Rating (-10)	
2	22.5	Metric	: 6. Plant communities,	interspersion, mi	crotopography.
max 20 pts.	subtotal		nd Vegetation Communities.	Vegatation Community Cover	
		Score all pr	resent using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area  Present and either comprises small part of wetland's vegetation
			Aquatic bed	1	and is of moderate quality, or comprises a significant part but is of
		1	Emergent		low quality
			Shrub	2	Present and either comprises significant part of wetland's vegetation and is of moderate quality, or comprises a small part
		0	Forest		and is of high quality.
			Mudflats	3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality.
			Open Water		
			Other		
			ntal (plan view) Interspersion.	Narrative Description of Vege	-
		Score only	7	low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
			High (5)	mod	Native spp are dominant component of the vegetation, although
			Moderately high (4)		nonnative and/or disturbance tolerant native spp can also be
			Moderate (3)		present, and species diversity moderate to moderately high, but generally w/o presence of rare, threatened, or endangered spp
			Moderately low (2)	high	A predominance of native species, with nonnative spp and/or
		X	Low (1)	riigir	disturbance tolerant native speakes, with normalive speakers, and high
		6c Covera	None (0) age of invasive plants. Refer to		spp diversity and often, but not always, the presence of rare, threatened, or endangered spp
			RAM long form for list. Add or	Mudflat and Open Water Class	
		deduct poir	nts for coverage.	0	Absent <0.1ha (0.247 acres)
			Extensive >75% cover (-5)	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
			Moderate 25-75% cover (-3)	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
			Sparse 5-25% cover (-1)	3	High 4ha (9.88 acres) or more
		Х	Nearly absent <5% cover (0)	Microtopography Cover Scale	
			Absent (1)	0	Absent
		6d. Microto		1	Present in very small amounts or if more common of marginal
			resent using 0 to 3 scale.		quality
		0	Vegetated hummucks/tussucks	2	Present in moderate amounts, but not of highest quality or in small
		0	Coarse woody debris >15cm (6in)		amounts of highest quality
		0	Standing dead >25cm (10in) dbh	3	
	•	0	Amphibian breeding pools		Present in moderate or greater amounts and of highest quality
22.5	GRANI	D TOT	AL (max 100 pts)		

## **ORAM Summary Worksheet**

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
J	Metric 2. Buffers and surrounding land use	3	
	Metric 3. Hydrology	8	
	Metric 4. Habitat	8.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	22.5	Category based on score breakpoints  Cat. 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	Is quantitative rating score less than the Category 2 scoring threshold (excluding 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	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES  Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES  Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit 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?	YES  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		

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

### **Background Information**

Name: Brooke Harrison

Date: 06/30/2020

Affiliation: Burns & McDonnell

Address: 530 West Spring Street, Suite 200 Columbus, OH 43215

Phone Number: 380-390-2516

e-mail address: bharrison@burnsmcd.com

Name of Wetland: W-5

Vegetation Communit(ies): PEM

HGM Class(es):

Depressional

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

Please refer to site map for wetland location.

Lat/Long or UTM Coordinate	NAD 1983 StatePlane Ohio South
USGS Quad Name	Maumee
County	Lucas
Township	
Section and Subsection	
Hydrologic Unit Code	04100009
Site Visit	06/30/2020
National Wetland Inventory Map	
Ohio Wetland Inventory Map	
Soil Survey	Х
Delineation report/map	Х

Name of Wetland: ₩-5		
Wetland Size (acres, hectares):		0.06 acre
Sketch: Include north arrow, relationship with other surface waters, vegetation zones,	, etc.	
	, etc.	
Comments, Narrative Discussion, Justification of Category Changes:		
	Cotogony	
Final score: 11	Category:	1

#### **Scoring Boundary Worksheet**

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
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.	х	
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.	х	
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.	х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		Х
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.		х

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), <a href="http://www.dnr.state.oh.us/dnap">http://www.dnr.state.oh.us/dnap</a>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	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	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?	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?	YES 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	Go 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	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	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	Go 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?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
	diameters greater than 450m (17.7m) dbm:	Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	NO
	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 9b	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	YES	NO
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible Category 3 status	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	Go to Question 10 YES	NO
30	i.e. the wetland is hydrologically unrestricted (no lakeward or upland	ILS	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These	Go to Question 9d	Go to Question 10
	include sandbar deposition wetlands, estuarine wetlands, river mouth		
9d	wetlands, or those dominated by submersed aquatic vegetation.  Does the wetland have a predominance of native species within its	YES	NO
ou	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Co to Quodion 10
		Category 3 status	
		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	YES	
	characterized by the following description: the wetland has a sandy	Wetland is a Category 3 wetland.	Go to Question 11
	substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	5 wettand.	
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of	Go to Question 11	
	Natural Areas and Preserves can provide assistance in confirming this		
11	type of wetland and its quality.  Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	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	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	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		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

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

Site:	NiSour	е	Brooke Harrison		Date: 06/30/2020
0	0	Metric 1. Wetland Area	a (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 <20.2	Pha) (5 nts)		
		10 to <25 acres (4 to <10.1 ha			
		3 to <10 acres (1.2 to <4 ha) (			
		0.3 to < 3 acres (012 to <1.2h			
		0.1 to <0.3 acres (0.04 to <0.1 X <0.1 acres (0.04ha) (0 pts)	2πα) (1 μι)		
4		· / / /			
1	1	Metric 2. Upland buffe	•		
max 14 pts.	subtotal	2a. Calculate average buffer width. Select	et only one and assign score. Do not double (164 ft) or more around wetland perimeter		
			fm to $<$ 50m (82 to $<$ 164ft) around wetland p		
			0m to <25m (32ft to <82ft) around wetland		
		<ul><li>X VERY NARROW. Buffers ave</li><li>2b. Intensity of surrounding land use. Sel</li></ul>	erage <10m (<32ft) around wetland perime	eter (0)	
			lder forest, prairie, savannah, wildlife area,	etc. (7)	
			hrubland, young second growth forest. (5)		
			ential, fenced pasture, park, conservation t n pasture, row cropping, mining, construction	-	ow field. (3)
		χ HIGH. Urban, industrial, oper	r pasture, row cropping, mining, construction	)II. (I)	
5	6	Metric 3. Hydrology.			
max 30 pts.	subtotal	3a. Sources of Water. Score all that appl	y.		tivity. Score all that apply.
		High pH groundwater (5) Other groundwater (3)			100 year floodplain (1) Between stream/lake and other human use (1)
		X Precipitation (1)			Part of wetland/upland (e.g. forest), complex (1)
		Seasonal/Intermittent surface	` '		Part of riparian or upland corridor (1)
		Perennial surface water (lake 3c. Maximum water depth. Select only or	* /		n inundation/saturation. Score one or dbl check. Semi- to permanently inundated/saturated (4)
		>0.7 (27.6in) (3)	ie and assign score.		Regularly inundated/saturated (3)
		0.4 to 0.7m (15.7 to 27.6in) (2	)	X	Seasonally inundated (2)
		χ <0.4m (<15.7in) (1)  3e. Modifications to natural hydrologic reg	ime Score one or double check and aver-	age	Seasonally saturated in upper 30cm (12in) (1)
		None or none apparent (12)	Check all disturbances observed	ugo.	1
		Recovered (7)	ditch		point source (nonstormwater)
		Recovering (3)  X Recent or no recovery (1)	tile dike	X	filling/grading road bed/RR track
		A Trecent of the recovery (1)	weir		dredging
			stormwater input	Х	Other-gas pipeline
	I				
3	9	Metric 4. Habitat Alteri	nation and Developmer	nt.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one or	•		
		None or none apparent (4)  Recovered (3)			
		Recovering (2)			
		X Recent or no recovery (1)			
		4b. Habitat development. Select only one Excellent (7)	and assign score.		
		Very good (6)			
		Good (5)			
		Moderately good (4)			
		Fair (3) Poor to fair (2)			
		X Poor (1)			
		4c. Habitat alteration. Score one or double			
		None or none apparent (9)  Recovered (6)	Check all disturbances observed mowing		shrub/sapling removal
		Recovering (3)	grazing		herbaceous/aquatic bed removal
		X Recent or no recovery (1)	X clearcutting	Х	sedimentation
	9		selective cutting woody debris removal		dredging farming
SI	ubtotal this page		toxic pollutants		nutrient enrichment

Site:	NiSour	ce		Brooke Harrison	Date: 06/30/2020			
		1						
	9							
S	ubtotal first pag	e						
0	9	Metric	5. Special Wetlar	ıds.				
max 10 pts.	subtotal	Check all the	hat apply and score as indicated.					
			Bog (10)					
			Fen (10)					
			Old growth forest (10)					
			Mature forested wetland (5)					
		Lake Erie coastal/tributary wetland -unrestricted hydrology (10)  Lake Erie coastal/tributary wetland-restricted hydrology (5)  Lake Plain Sand Prairies (Oak Openings) (10)  Relict Wet Prairies (10)						
			Known occurrence state/federal threatened or endangered species (10)					
			Significant migratory songbird/w	- ' '				
	Ī		Category 1 Wetland. See Ques					
2	11	Metric	6. Plant commun	ities, interspersion, m	icrotopography.			
max 20 pts.	subtotal		nd Vegetation Communities.	Vegatation Community Cover				
		Score all pi	resent using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area  Present and either comprises small part of wetland's vegetation			
			Aquatic bed	1	and is of moderate quality, or comprises a significant part but is of			
		1	Emergent		low quality			
			Shrub	2	Present and either comprises significant part of wetland's vegetation and is of moderate quality, or comprises a small part			
			Forest		and is of high quality.			
			Mudflats	3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality.			
			Open Water	G	logotation and to or mgr quarty.			
			Other					
		6b. Horizontal (plan view) Interspersion.		Narrative Description of Vege	etation Quality			
		Score only	7	low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species			
			High (5)	mod	Native spp are dominant component of the vegetation, although			
			Moderately high (4)	mod	nonnative and/or disturbance tolerant native spp can also be			
			Moderate (3)		present, and species diversity moderate to moderately high, but			
			Moderately low (2)		generally w/o presence of rare, threatened, or endangered spp			
			Low (1)	high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high			
		Х	None (0)		spp diversity and often, but not always, the presence of rare,			
			age of invasive plants. Refer to	Modflet and Ones Water Olse	threatened, or endangered spp			
			RAM long form for list. Add or nts for coverage.	Mudflat and Open Water Clas	Absent <0.1ha (0.247 acres)			
		- 1	Extensive >75% cover (-5)	1	Low 0.1 to <1ha (0.247 to 2.47 acres)			
			Moderate 25-75% cover (-3)	2	Moderate 1 to <4ha (2.47 to 9.88 acres)			
			Sparse 5-25% cover (-1)	3	High 4ha (9.88 acres) or more			
			<b>†</b>		,			
			Nearly absent <5% cover (0)	Microtopography Cover Scale				
		X 6d. Microto	Absent (1)	0	Absent Present in very small amounts or if more common of marginal			
			resent using 0 to 3 scale.	1	quality			
		0	Vegetated hummucks/tussucks	•	Present in moderate amounts, but not of bisheet quality or in area!			
		0	Coarse woody debris >15cm (6i	2 n)	Present in moderate amounts, but not of highest quality or in small amounts of highest quality			
		0	Standing dead >25cm (10in) dbl	h				
		0	Amphibian breeding pools	3	Present in moderate or greater amounts and of highest quality			
	1		<b>_</b>		. 1995. The moderate of greater amounts and of highest quality			
11	<b>GRANI</b>	D TOT	AL (max 100 pts)					

## **ORAM Summary Worksheet**

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	5	
	Metric 4. Habitat	3	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	11	Category based on score breakpoints  Cat. 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	Is quantitative rating score less than the Category 2 scoring threshold (excluding 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	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES  Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES  Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit 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?	YES  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	

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

## **Background Information**

Name: Brooke Harrison

Date: 06/30/2020

Affiliation: Burns & McDonnell

Address: 530 West Spring Street, Suite 200 Columbus, OH 43215

Phone Number: 380-390-2516

e-mail address: bharrison@burnsmcd.com

Name of Wetland: W-6

Vegetation Communit(ies): PEM

HGM Class(es):

Depressional

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

Please refer to site map for wetland location.

Lat/Long or UTM Coordinate	NAD 1983 StatePlane Ohio South
USGS Quad Name	Maumee
County	Lucas
Township	
Section and Subsection	
Hydrologic Unit Code	04100009
Site Visit	06/30/2020
National Wetland Inventory Map	
Ohio Wetland Inventory Map	
Soil Survey	Х
Delineation report/map	Х

Name of Wetland: W-6		
Wetland Size (acres, hectares):		0.08 acre
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, e	etc.	
	etc.	
Comments, Narrative Discussion, Justification of Category Changes:		
	atogony:	
Final score: 11 C	ategory:	1

#### **Scoring Boundary Worksheet**

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
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.	х	
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.	х	
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.	х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		Х
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.		х

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), <a href="http://www.dnr.state.oh.us/dnap">http://www.dnr.state.oh.us/dnap</a>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	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	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?	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?	YES 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	Go 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	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	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	Go 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?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
	diameters greater than 450m (17.7m) dbm:	Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	NO
	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 9b	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	YES	NO
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible Category 3 status	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	Go to Question 10 YES	NO
30	i.e. the wetland is hydrologically unrestricted (no lakeward or upland	ILS	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These	Go to Question 9d	Go to Question 10
	include sandbar deposition wetlands, estuarine wetlands, river mouth		
9d	wetlands, or those dominated by submersed aquatic vegetation.  Does the wetland have a predominance of native species within its	YES	NO
ou	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Co to Quodion 10
		Category 3 status	
		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	YES	
	characterized by the following description: the wetland has a sandy	Wetland is a Category 3 wetland.	Go to Question 11
	substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	5 wettand.	
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of	Go to Question 11	
	Natural Areas and Preserves can provide assistance in confirming this		
11	type of wetland and its quality.  Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	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	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	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		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

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

Site:	NiSour	e	Brooke Harrison		Date: 06/30/2020
0	0	Metric 1. Wetland Area	a (size).		
max 6 pts.	subtotal	Select one size class and assign sco	ore.		
		>50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2	Pha) (5 nts)		
		10 to <25 acres (4 to <10.1 ha			
		3 to <10 acres (1.2 to <4 ha) (			
		0.3 to < 3 acres (012 to <1.2h			
		0.1 to <0.3 acres (0.04 to <0.1 X <0.1 acres (0.04ha) (0 pts)	2πα) (1 μι)		
_	_	, , , , ,		_	
1	1	Metric 2. Upland buffe	•		
max 14 pts.	subtotal	2a. Calculate average buffer width. Select	et only one and assign score. Do not double (164 ft) or more around wetland perimeter of		
			im to <50m (82 to <164ft) around wetland p		
			0m to <25m (32ft to <82ft) around wetland		
		χ VERY NARROW. Buffers avon 2b. Intensity of surrounding land use. Sel	erage <10m (<32ft) around wetland perime	ter (0)	
			lder forest, prairie, savannah, wildlife area,	etc. (7)	
			hrubland, young second growth forest. (5)		
			ential, fenced pasture, park, conservation t pasture, row cropping, mining, construction	-	ow field. (3)
		χ HIGH. Urban, industrial, oper	r pasture, row cropping, mining, construction	)II. (1 <i>)</i>	
5	6	Metric 3. Hydrology.			
max 30 pts.	subtotal	3a. Sources of Water. Score all that apply	у.		tivity. Score all that apply.
		High pH groundwater (5) Other groundwater (3)			100 year floodplain (1) Between stream/lake and other human use (1)
		X Precipitation (1)			Part of wetland/upland (e.g. forest), complex (1)
		Seasonal/Intermittent surface	* /		Part of riparian or upland corridor (1)
		Perennial surface water (lake 3c. Maximum water depth. Select only or	* *		n inundation/saturation. Score one or dbl check.
		>0.7 (27.6in) (3)	e and assign score.		Semi- to permanently inundated/saturated (4) Regularly inundated/saturated (3)
		0.4 to 0.7m (15.7 to 27.6in) (2	)	X	Seasonally inundated (2)
		X <0.4m (<15.7in) (1)	ime. Score one or double check and avera	ane	Seasonally saturated in upper 30cm (12in) (1)
		None or none apparent (12)	Check all disturbances observed	ago.	1
		Recovered (7)	ditch		point source (nonstormwater)
		Recovering (3)  X Recent or no recovery (1)	tile		filling/grading
		X Recent or no recovery (1)	dike weir	X	road bed/RR track dredging
			stormwater input	Х	Other-gas pipeline
1	ı	•			
3	9	Metric 4. Habitat Alteri	nation and Developmer	nt.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one or	•		
		None or none apparent (4)			
		Recovered (3) Recovering (2)			
		X Recent or no recovery (1)			
		4b. Habitat development. Select only one	and assign score.		
		Excellent (7)  Very good (6)			
		Good (5)			
		Moderately good (4)			
		Fair (3) Poor to fair (2)			
		X Poor (1)			
		4c. Habitat alteration. Score one or double			
		None or none apparent (9)  Recovered (6)	Check all disturbances observed mowing		shrub/sapling removal
		Recovering (3)	grazing		herbaceous/aquatic bed removal
		X Recent or no recovery (1)	X clearcutting	Х	sedimentation
	9		selective cutting woody debris removal	<u> </u>	dredging farming
SI	ubtotal this page		toxic pollutants	-	nutrient enrichment

Site:	NiSour	ce		Brooke Harrison	Date: 06/30/2020
		1			
	9				
5	subtotal first page	e 1			
0	9	Metric	5. Special Wetlan	ıds.	
max 10 pts.	subtotal		at apply and score as indicated.		
			Bog (10)		
		1	Fen (10)		
			Old growth forest (10)		
			Mature forested wetland (5)		
		-	Lake Erie coastal/tributary wetla	nd -unrestricted hydrology (10)	
		-	Lake Erie coastal/tributary wetla		
			Lake Plain Sand Prairies (Oak C		
			Relict Wet Prairies (10)	- I · · · ʊ-/ ( · · /	
			. ,	threatened or endangered species (10)	
			Significant migratory songbird/w		
		<b>'</b>	Category 1 Wetland. See Ques		
2	11			ities, interspersion, m	
max 20 pts.	subtotal		Vegetation Communities.	Vegatation Community Cover	
			esent using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area  Present and either comprises small part of wetland's vegetation
			Aquatic bed	1	and is of moderate quality, or comprises a significant part but is of
			Emergent	-	low quality  Present and either comprises significant part of wetland's
		-	Shrub	2	vegetation and is of moderate quality, or comprises a small part
			Forest		and is of high quality.  Present and comprises significant part, or more, of wetland's
			Mudflats	3	vegetation and is of high quality.
			Open Water		
			Other		
		6b. Horizont Score only or	tal (plan view) Interspersion. ne.	Narrative Description of Vege	Low spp diversity and/or predominance of nonnative or
			High (5)	low	disturbance tolerant native species
			Moderately high (4)	mod	Native spp are dominant component of the vegetation, although
					nonnative and/or disturbance tolerant native spp can also be
		-	Moderate (3)		present, and species diversity moderate to moderately high, but generally w/o presence of rare, threatened, or endangered spp
			Moderately low (2)	high	A predominance of native species, with nonnative spp and/or
			Low (1)	<b>3</b> ··	disturbance tolerant native spp absent or virtually absent, and high
			None (0) ge of invasive plants. Refer to		spp diversity and often, but not always, the presence of rare, threatened, or endangered spp
		-	AM long form for list. Add or	Mudflat and Open Water Clas	3 11
		deduct points	s for coverage.	0	Absent <0.1ha (0.247 acres)
		<u> </u>	Extensive >75% cover (-5)	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
			Moderate 25-75% cover (-3)	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
			Sparse 5-25% cover (-1)	3	High 4ha (9.88 acres) or more
			Nearly absent <5% cover (0)	Microtopography Cover Scale	9
		X	Absent (1)	0	Absent
		6d. Microtop	0 . ,	1	Present in very small amounts or if more common of marginal
			esent using 0 to 3 scale.		quality
			Vegetated hummucks/tussucks	2	Present in moderate amounts, but not of highest quality or in small
			Coarse woody debris >15cm (6i	·	amounts of highest quality
			Standing dead >25cm (10in) dbl	n 3	
					IDan and in an admite on supplies and of bight at available.
	7	0	Amphibian breeding pools		Present in moderate or greater amounts and of highest quality

## **ORAM Summary Worksheet**

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
Ū	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	5	
	Metric 4. Habitat	3	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	11	Category based on score breakpoints  Cat. 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	Is quantitative rating score less than the Category 2 scoring threshold (excluding 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	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES  Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES  Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit 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?	YES  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	

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

## **Background Information**

Name: Brooke Harrison

Date: 06/30/2020

Affiliation: Burns & McDonnell

Address: 530 West Spring Street, Suite 200 Columbus, OH 43215

Phone Number: 380-390-2516

e-mail address: bharrison@burnsmcd.com

Name of Wetland: W-7

Vegetation Communit(ies): PEM/PFO

HGM Class(es):

Depressional

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

Please refer to site map for wetland location.

Lat/Long or UTM Coordinate	NAD 1983 StatePlane Ohio South
USGS Quad Name	Maumee
County	Lucas
Township	
Section and Subsection	
Hydrologic Unit Code	04100009
Site Visit	06/30/2020
National Wetland Inventory Map	
Ohio Wetland Inventory Map	
Soil Survey	Х
Delineation report/map	Х

Name of Wetland: W-7	
Wetland Size (acres, hectares):	0.2 acre
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	<u></u>
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.  Please refer to site map for wetland location.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 17 Category	· 1

#### **Scoring Boundary Worksheet**

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
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.	х	
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.	х	
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.	х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		Х
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.		х

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), <a href="http://www.dnr.state.oh.us/dnap">http://www.dnr.state.oh.us/dnap</a>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	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	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?	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?	YES 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	Go 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	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	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	Go 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?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
	diameters greater than 450m (17.7m) dbm:	Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	NO
	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 9b	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	YES	NO
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible Category 3 status	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	Go to Question 10 YES	NO
30	i.e. the wetland is hydrologically unrestricted (no lakeward or upland	ILS	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These	Go to Question 9d	Go to Question 10
	include sandbar deposition wetlands, estuarine wetlands, river mouth		
9d	wetlands, or those dominated by submersed aquatic vegetation.  Does the wetland have a predominance of native species within its	YES	NO
ou	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Co to Quodion 10
		Category 3 status	
		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	YES	
	characterized by the following description: the wetland has a sandy	Wetland is a Category 3 wetland.	Go to Question 11
	substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	5 wettand.	
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of	Go to Question 11	
	Natural Areas and Preserves can provide assistance in confirming this		
11	type of wetland and its quality.  Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	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	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	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		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

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

Site:	NiSour	e	Brooke Harrison		Date: 06/30/2020			
	1							
1	1	Metric 1. Wetland Area	a (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 <20.2						
		10 to <25 acres (4 to <10.1 ha 3 to <10 acres (1.2 to <4 ha) (						
		0.3 to < 3 acres (012 to <1.2h						
		X 0.1 to <0.3 acres (0.04 to <0.1	2ha) (1 pt)					
	1	<0.1 acres (0.04ha) (0 pts)						
1	2	Metric 2. Upland buffe	rs and surrounding lan	d use				
max 14 pts.	subtotal	2a. Calculate average buffer width. Selec	•					
		WIDE. Buffers average 50m	(164 ft) or more around wetland perimeter (	(7)				
			im to <50m (82 to <164ft) around wetland p					
			Om to <25m (32ft to <82ft) around wetland erage <10m (<32ft) around wetland perime					
		2b. Intensity of surrounding land use. Sel		iter (0)				
			lder forest, prairie, savannah, wildlife area,	etc. (7)				
			hrubland, young second growth forest. (5)		( ) ( ) ( ) ( )			
			ential, fenced pasture, park, conservation to pasture, row cropping, mining, construction	-	ow field. (3)			
		Than. Orban, maasmar, oper	r pasture, row cropping, mining, construction	)II. (I <i>)</i>				
5	7	Metric 3. Hydrology.						
max 30 pts.	subtotal	3a. Sources of Water. Score all that apply	y.		tivity. Score all that apply.			
		High pH groundwater (5)			100 year floodplain (1)			
		Other groundwater (3)  X Precipitation (1)			Between stream/lake and other human use (1) Part of wetland/upland (e.g. forest), complex (1)			
		Seasonal/Intermittent surface	water (3)		Part of riparian or upland corridor (1)			
		Perennial surface water (lake	* /		n inundation/saturation. Score one or dbl check.			
		3c. Maximum water depth. Select only or	e and assign score.		Semi- to permanently inundated/saturated (4)			
		>0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2	1		Regularly inundated/saturated (3) Seasonally inundated (2)			
		X <0.4m (<15.7in) (1)	)	Х	Seasonally saturated in upper 30cm (12in) (1)			
			ime. Score one or double check and avera	age.	· · · · · · · · · · · · · · · · ·			
		None or none apparent (12)	Check all disturbances observed					
		Recovered (7) Recovering (3)	ditch tile		point source (nonstormwater) filling/grading			
		X Recent or no recovery (1)	dike	Х	road bed/RR track			
			weir		dredging			
			stormwater input	X	Other-gas pipeline			
	1	1						
3	10	Metric 4. Habitat Alteri	nation and Developmer	nt.				
max 20 pts.	subtotal	4a. Substrate disturbance. Score one or	• • • • • • • • • • • • • • • • • • •					
		None or none apparent (4)						
		Recovered (3) Recovering (2)						
		X Recent or no recovery (1)						
		4b. Habitat development. Select only one	and assign score.					
		Excellent (7)						
		Very good (6) Good (5)						
		Moderately good (4)						
		Fair (3)						
		Poor to fair (2)						
		X Poor (1)  4c. Habitat alteration. Score one or double	e check and average.					
		None or none apparent (9)	Check all disturbances observed		1			
		Recovered (6)	mowing		shrub/sapling removal			
		Recovering (3)	grazing	-	herbaceous/aquatic bed removal			
1		Recent or no recovery (1)	χ clearcutting selective cutting	Х	sedimentation dredging			
	10		woody debris removal		farming			
SI	ubtotal this page		toxic pollutants		nutrient enrichment			

Site:	NISour	NISource		oke Harrison	Date: 06/30/2020
s	10	de.			
0	10	7	c 5. Special Wetlands	_	
max 10 pts.	subtotal		that apply and score as indicated.	•	
			Bog (10)		
			Fen (10)		
			<b>–</b>		
			Old growth forest (10)		
			Mature forested wetland (5)		
			Lake Erie coastal/tributary wetland -ur		
			Lake Erie coastal/tributary wetland-res	stricted hydrology (5)	
			Lake Plain Sand Prairies (Oak Openir	ngs) (10)	
			Relict Wet Prairies (10)		
			Known occurrence state/federal threa	tened or endangered species (10)	
			Significant migratory songbird/water for	owl habitat or usage (10)	
			Category 1 Wetland. See Question 1	Qualitative Rating (-10)	
-3	7	Metri	c 6. Plant communitie	s. interspersion. m	nicrotopography.
max 20 pts.	subtotal		and Vegetation Communities.	Vegatation Community Cove	
			present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
			Aquatic bed	1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of
		1	Emergent	Į.	low quality
			Shrub		Present and either comprises significant part of wetland's
		0	Forest	2	vegetation and is of moderate quality, or comprises a small part and is of high quality.
			Mudflats	-	Present and comprises significant part, or more, of wetland's
			Open Water	3	vegetation and is of high quality.
			<b>∃</b> '		
		6b Horiz	Other contal (plan view) Interspersion.	Narrative Description of Veg	netation Quality
		Score onl			Low spp diversity and/or predominance of nonnative or
			High (5)	low	disturbance tolerant native species
			Moderately high (4)	mod	Native spp are dominant component of the vegetation, although
			Moderate (3)		nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but
			Moderately low (2)		generally w/o presence of rare, threatened, or endangered spp
		Х	Low (1)	high	A predominance of native species, with nonnative spp and/or
			None (0)		disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare,
		6c. Cove	rage of invasive plants. Refer to		threatened, or endangered spp
			DRAM long form for list. Add or	Mudflat and Open Water Cla	
			oints for coverage.	0	Absent <0.1ha (0.247 acres)
		Х	Extensive >75% cover (-5)	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
			Moderate 25-75% cover (-3)	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
			Sparse 5-25% cover (-1)	3	High 4ha (9.88 acres) or more
			Nearly absent <5% cover (0)	Microtopography Cover Sca	le
			Absent (1)	0	Absent
			otopography.	1	Present in very small amounts or if more common of marginal
			present using 0 to 3 scale.		quality
		0	Vegetated hummucks/tussucks	2	Present in moderate amounts, but not of highest quality or in small
		0	Coarse woody debris >15cm (6in)		amounts of highest quality
		0	Standing dead >25cm (10in) dbh	3	
	-	0	Amphibian breeding pools		Present in moderate or greater amounts and of highest quality
7	GRAN	р тот	AL (max 100 pts)		

## **ORAM Summary Worksheet**

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
J	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	5	
	Metric 4. Habitat	3	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-3	
	TOTAL SCORE	7	Category based on score breakpoints  Cat. 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	Is quantitative rating score less than the Category 2 scoring threshold (excluding 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	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES  Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES  Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit 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?	YES  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	

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

## **Background Information**

Name: Brooke Harrison

Date: 06/30/2020

Affiliation: Burns & McDonnell

Address: 530 West Spring Street, Suite 200 Columbus, OH 43215

Phone Number: 380-390-2516

e-mail address: bharrison@burnsmcd.com

Name of Wetland: W-8

Vegetation Communit(ies): PEM/PFO

HGM Class(es):

Depressional

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

Please refer to site map for wetland location.

Lat/Long or UTM Coordinate	NAD 1983 StatePlane Ohio South
USGS Quad Name	Maumee
County	Lucas
Township	
Section and Subsection	
Hydrologic Unit Code	04100009
Site Visit	06/30/2020
National Wetland Inventory Map	
Ohio Wetland Inventory Map	
Soil Survey	Х
Delineation report/map	Х

Name of Wetland: W-8	
Wetland Size (acres, hectares):	0.35 acre
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, et	tc.
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, et Please refer to site map for wetland location.	tc.
Comments, Narrative Discussion, Justification of Category Changes:	togory:
Final score: 24 Ca	ategory: 1

#### **Scoring Boundary Worksheet**

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
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.	х	
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.	х	
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.	х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		Х
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.		х

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), <a href="http://www.dnr.state.oh.us/dnap">http://www.dnr.state.oh.us/dnap</a>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	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	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?	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?	YES 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	Go 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	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	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	Go 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?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
	diameters greater than 450m (17.7m) dbm:	Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	NO
	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 9b	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	YES	NO
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible Category 3 status	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	Go to Question 10 YES	NO
30	i.e. the wetland is hydrologically unrestricted (no lakeward or upland	ILS	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These	Go to Question 9d	Go to Question 10
	include sandbar deposition wetlands, estuarine wetlands, river mouth		
9d	wetlands, or those dominated by submersed aquatic vegetation.  Does the wetland have a predominance of native species within its	YES	NO
ou	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Co to Quodion 10
		Category 3 status	
		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	YES	
	characterized by the following description: the wetland has a sandy	Wetland is a Category 3 wetland.	Go to Question 11
	substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	5 wettand.	
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of	Go to Question 11	
	Natural Areas and Preserves can provide assistance in confirming this		
11	type of wetland and its quality.  Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	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	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	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		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

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

Site:	NiSour	ce	Brooke Harrison		Date: 06/30/2020
		]			
2	2	Metric 1. Wetland Are	a (size).		
max 6 pts.	subtotal	Select one size class and assign so	core.		
		>50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.	.2ha) (5 pts)		
		10 to <25 acres (4 to <10.1 h		wetland	expands offsite
		3 to <10 acres (1.2 to <4 ha)			
		X 0.3 to < 3 acres (012 to <1.2h 0.1 to <0.3 acres (0.04 to <0.			
		<0.1 acres (0.04ha) (0 pts)	=		
4	6	Metric 2. Upland buffe	are and currounding	land usa	
max 14 pts.	subtotal	2a. Calculate average buffer width. Sele			
,			(164 ft) or more around wetland perim		
			5m to <50m (82 to <164ft) around wet		
			10m to <25m (32ft to <82ft) around we verage <10m (<32ft) around wetland pe		
		2b. Intensity of surrounding land use. Se	- :		
			older forest, prairie, savannah, wildlife a		
			shrubland, young second growth forest dential, fenced pasture, park, conserva		ow field (3)
			en pasture, row cropping, mining, const	=	ow neid. (b)
0	1.1	Matria O Hardwala			
8	14	Metric 3. Hydrology.	slv.	2h Connoct	tivity. Score all that apply
max 30 pts.	subtotal	3a. Sources of Water. Score all that app High pH groundwater (5)	ny.		tivity. Score all that apply. 100 year floodplain (1)
		Other groundwater (3)			Between stream/lake and other human use (1)
		X Precipitation (1)			Part of wetland/upland (e.g. forest), complex (1)
		Seasonal/Intermittent surface Perennial surface water (lake	* *		Part of riparian or upland corridor (1) inundation/saturation. Score one or dbl check.
		3c. Maximum water depth. Select only o	, ,		Semi- to permanently inundated/saturated (4)
		>0.7 (27.6in) (3)	-		Regularly inundated/saturated (3)
		0.4 to 0.7m (15.7 to 27.6in) (2	2)		Seasonally inundated (2)
		X <0.4m (<15.7in) (1)  3e. Modifications to natural hydrologic re-	gime. Score one or double check and		Seasonally saturated in upper 30cm (12in) (1)
		None or none apparent (12)	Check all disturbances observed		
		Recovered (7)	ditch		point source (nonstormwater)
		X Recovering (3)  Recent or no recovery (1)	tile dike		filling/grading road bed/RR track
			weir		dredging
			stormwater input	X	Other-gas pipeline
		1			
7	21	Metric 4. Habitat Alter	nation and Developn	nent.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one or	double check and average.		
		None or none apparent (4)  Recovered (3)			
		X Recovering (2)			
		Recent or no recovery (1)			
		4b. Habitat development. Select only on Excellent (7)	e and assign score.		
		Very good (6)			
		Good (5)			
		Moderately good (4) Fair (3)			
		X Poor to fair (2)			
		Poor (1)			
		4c. Habitat alteration. Score one or doub			
		None or none apparent (9)  Recovered (6)	Check all disturbances observed mowing		shrub/sapling removal
		X Recovering (3)	grazing		herbaceous/aquatic bed removal
		Recent or no recovery (1)	χ clearcutting		sedimentation
	21		x selective cutting woody debris removal		dredging farming
SI	ubtotal this page		toxic pollutants		nutrient enrichment

Site:	NiSour	ce		Brooke Harrison	Date: 06/30/2020
SI	21 ubtotal first pag	ge			
0	21	7	5. Special Wetlan	ids.	
max 10 pts.	subtotal		nat apply and score as indicated.		
			Bog (10)		
			Fen (10)		
			Old growth forest (10)		
			Mature forested wetland (5)		
			Lake Erie coastal/tributary wetla	nd -unrestricted hydrology (10)	
			Lake Erie coastal/tributary wetla		
			Lake Plain Sand Prairies (Oak 0		
			Relict Wet Prairies (10)	, pormigo, (10)	
			† ` ` `	threatened or endangered species (10)	
			Significant migratory songbird/w	<b>5</b> , ,	
			Category 1 Wetland. See Ques		
	I		_		
3	24			ities, interspersion, m	
max 20 pts.	subtotal		nd Vegetation Communities. resent using 0 to 3 scale.	Vegatation Community Cover	Scale Absent or comprises <0.1ha (0.2471 acres) contiguous area
		Ocore an pr	Aquatic bed	0	Present and either comprises small part of wetland's vegetation
		1	Emergent	1	and is of moderate quality, or comprises a significant part but is of low quality
			Shrub		Present and either comprises significant part of wetland's
		0	1_	2	vegetation and is of moderate quality, or comprises a small part
			Forest		and is of high quality.  Present and comprises significant part, or more, of wetland's
			Mudflats	3	vegetation and is of high quality.
			Open Water		
		6h Horizo	Other ntal (plan view) Interspersion.	Narrative Description of Vege	station Quality
		Score only	" '	Harrative Description of Vege	Low spp diversity and/or predominance of nonnative or
			High (5)	low	disturbance tolerant native species
			Moderately high (4)	mod	Native spp are dominant component of the vegetation, although
			Moderate (3)		nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but
			Moderately low (2)		generally w/o presence of rare, threatened, or endangered spp
		Х	Low (1)	high	A predominance of native species, with nonnative spp and/or
			None (0)		disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare,
		6c. Covera	age of invasive plants. Refer to		threatened, or endangered spp
			RAM long form for list. Add or not not start and the start of the start and the start of the sta	Mudflat and Open Water Clas	s Quality Absent <0.1ha (0.247 acres)
		doddot poii	Extensive >75% cover (-5)	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
			Moderate 25-75% cover (-3)	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
			Sparse 5-25% cover (-1)	3	High 4ha (9.88 acres) or more
			Nearly absent <5% cover (0)	Microtopography Cover Scale	9
		Х	Absent (1)	0	Absent
		6d. Microto	ppography.	1	Present in very small amounts or if more common of marginal quality
		0	resent using 0 to 3 scale.  Vegetated hummucks/tussucks		Anna
		0	Coarse woody debris >15cm (6i	n)2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
		0	Standing dead >25cm (10in) dbl	1 2	
	1	0	Amphibian breeding pools	3	Present in moderate or greater amounts and of highest quality
24	GRAN	D TOT	AL (max 100 pts)		

## **ORAM Summary Worksheet**

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
J	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	8	
	Metric 4. Habitat	7	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	24	Category based on score breakpoints  Cat. 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	Is quantitative rating score less than the Category 2 scoring threshold (excluding 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	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES  Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES  Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit 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?	YES  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

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

## **Background Information**

Name: Brooke Harrison

Date: 09/30/2022

Affiliation: Burns & McDonnell

Address: 530 West Spring Street, Suite 200 Columbus, OH 43215

Phone Number: 380-390-2516

e-mail address: bharrison@burnsmcd.com

Name of Wetland: W-9

Vegetation Communit(ies): PEM/PFO

HGM Class(es):

Depressional

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

Please refer to site map for wetland location.

Lat/Long or UTM Coordinate	NAD 1983 StatePlane Ohio South
USGS Quad Name	Maumee
County	Lucas
Township	
Section and Subsection	
Hydrologic Unit Code	04100009
Site Visit	09/02/2022
National Wetland Inventory Map	
Ohio Wetland Inventory Map	
Soil Survey	X
Delineation report/map	X

Name of Wetland: W-9			
Wetland Size (acres, hectares):		0.92 AC	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.		=	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.  Please refer to site map for wetland location.			
Commande Nametiva Discussion, Justification of Catagony Changes			
Comments, Narrative Discussion, Justification of Category Changes:			
Final score :32.5 Catego	ry:	2	

#### **Scoring Boundary Worksheet**

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
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.	х	
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.	х	
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.	х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		Х
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.		х

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), <a href="http://www.dnr.state.oh.us/dnap">http://www.dnr.state.oh.us/dnap</a>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	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	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?	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?	YES 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	Go 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	Go to Question 6
6	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	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	Go 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?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
	diameters greater than 450m (17.7m) don:	Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	NO
	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 9b	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	YES	NO
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible Category 3 status	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	Go to Question 10 YES	NO
30	i.e. the wetland is hydrologically unrestricted (no lakeward or upland	ILS	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These	Go to Question 9d	Go to Question 10
	include sandbar deposition wetlands, estuarine wetlands, river mouth		
9d	wetlands, or those dominated by submersed aquatic vegetation.  Does the wetland have a predominance of native species within its	YES	NO
ou	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Co to Quodion 10
		Category 3 status	
		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	YES	
	characterized by the following description: the wetland has a sandy	Wetland is a Category 3 wetland.	Go to Question 11
	substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	5 wettand.	
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of	Go to Question 11	
	Natural Areas and Preserves can provide assistance in confirming this		
11	type of wetland and its quality.  Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	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	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	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		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

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

an use (1)
omplex (1)
, ,
dbl check.
rated (4)
(12in) (1)
<del></del> -
11

Site:	NiSour	ce THPR	Brooke H	<u>larrison</u>	Date: 09/2/2022
5	29.5	9			
0	29.5	Metric 5. Spec	ial Wetlands.		
max 10 pts.	subtotal	Check all that apply and s	core as indicated.		
		Bog (10)			
		Fen (10)			
		Old growth for	est (10)		
		Mature foreste	ed wetland (5)		
		Lake Erie coas	stal/tributary wetland -unrestricte	ed hydrology (10)	
		Lake Erie coas	stal/tributary wetland-restricted I	nydrology (5)	
		Lake Plain Sa	nd Prairies (Oak Openings) (10)	)	
		Relict Wet Pra	airies (10)		
		Known occurre	ence state/federal threatened or	endangered species (1	10)
		Significant mig	gratory songbird/water fowl habi	tat or usage (10)	
		Category 1 We	etland. See Question 1 Qualitat	tive Rating (-10)	
0	00 E	Metric 6 Plant	communities in	terenersion	microtopography.
3 max 20 pts.	32.5	6a. Wetland Vegetation C		atation Community Co	
		Score all present using 0 to		0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
		Aquatic bed		1	Present and either comprises small part of wetland's vegetation
		2 Emergent		ı	and is of moderate quality, or comprises a significant part but is of low quality
		1 Shrub			Present and either comprises significant part of wetland's
		1 Forest		2	vegetation and is of moderate quality, or comprises a small part and is of high quality.
		Mudflats		_	Present and comprises significant part, or more, of wetland's
		Open Water		3	vegetation and is of high quality.
		Other	<del></del>		
		6b. Horizontal (plan view)	Interspersion. Nar	rative Description of V	egetation Quality
		Score only one.		low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
		High (5)	·		·
		Moderately hig	gh (4)	mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be
		Moderate (3)			present, and species diversity moderate to moderately high, but
		X Moderately lov	v (2)		generally w/o presence of rare, threatened, or endangered spp
		Low (1)		high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high
		None (0)	L . B		spp diversity and often, but not always, the presence of rare,
		6c. Coverage of invasive page 1 ORAM long form for		dflat and Open Water (	threatened, or endangered spp  Class Quality
		deduct points for coverage		0	Absent <0.1ha (0.247 acres)
		X Extensive >75	% cover (-5)	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
		Moderate 25-7	75% cover (-3)	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
		Sparse 5-25%	cover (-1)	3	High 4ha (9.88 acres) or more
		Nearly absent	<5% cover (0) <b>Mic</b>	rotopography Cover S	Scale
		Absent (1)		0	Absent
		6d. Microtopography.	- 2	1	Present in very small amounts or if more common of marginal quality
		Score all present using 0 to Vegetated hur			quality
			mmucks/tussucks	2	Present in moderate amounts, but not of highest quality or in smal
		2	debris >15cm (6in)		amounts of highest quality
		Standing dods	I >25cm (10in) dbh	3	Droppet in moderate or process and of highest 19
	1				Present in moderate or greater amounts and of highest quality
32.5	GRANI	TOTAL (max	100 pts)		

### **ORAM Summary Worksheet**

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
J	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	10	
	Metric 4. Habitat	10.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	32.5	Category based on score breakpoints
			1 or 2 gray zone

**Complete Wetland Categorization Worksheet**.

# Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:  Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding 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	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES  Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES  Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	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?	YES  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.

	Fir	nal Category	
Choose one	Category 1	Category 2	Category 3

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

APPENDIX E -HEADWATER
HABITAT
EVALUATION INDEX
(HHEI) FORMS



### ChieFPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):



SITE NAME/LOCATION			
SITE NUMBER	RIVER BASIN	DRAINAGE AREA (mi²)	
LENGTH OF STREAM REACH (ft)	LAT LONG	RIVER CODE RIVER MILE	
DATE SCORER	COMMENTS		
NOTE: Complete All Items On This Form	- Refer to "Field Evaluation Ma	nual for Ohio's PHWH Streams" for Instru	uctions
STREAM CHANNEL	URAL CHANNEL	☐ RECOVERING ☐ RECENT OR NO RECO	OVERY
(Max of 32). Add total number of significa  TYPE  BLDR SLABS [16 pts]  BOULDER (>256 mm) [16 pts]  BEDROCK [16 pt]  COBBLE (65-256 mm) [12 pts]	nt substrate types found (Max of 8). F  RCENT TYPE SILT [3 pt] LEAF PAC FINE DETF CLAY or H. MUCK [0 p ARTIFICIA  (A) Substrate Perc Check	PERCENT	HHEI Metric Points Substrate Max = 40
2. Maximum Pool Depth (Measure the maevaluation. Avoid plunge pools from road > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]  COMMENTS	culverts or storm water pipes) (Che	0 cm [15 pts] pts] ER OR MOIST CHANNEL [0 pts]	Pool Depth Max = 30
3. BANK FULL WIDTH (Measured as the a > 4.0 meters (> 13') [30 pts]	average of 3-4 measurements)		Bankfull Width Max=30
COMMENTS	AV	ERAGE BANKFULL WIDTH (meters):	
RIPARIAN ZONE AND FLOODPI  RIPARIAN WIDTH  L R (Per Bank)  Wide >10m  Moderate 5-10m  Narrow <5m	This information must also  AIN QUALITY ☆ NOTE: River Lift    FLOODPLAIN QUALITY  L R (Most Predominant per B  Mature Forest, Wetland   Immature Forest, Shrub of   Field  Residential, Park, New F	eft (L) and Right (R) as looking downstream☆  ank)  L R  Conservation Tillage  or Old  Urban or Industrial	op
□ □ None COMMENTS	Fenced Pasture	☐ ☐ Mining or Construction	-
	Í Ì Mo	pist Channel, isolated pools, no flow (Intermittent) y channel, no water (Ephemeral)  ONLY one box):	
STREAM GRADIENT ESTIMATE  Flat (0.5 ft/100 ft)  Flat to Moderate	1.5	√ >3  Moderate to Severe	00 ft)

QHEI PERFORMED? - □ Yes □ No QHEI Score	ADDITIONAL STREAM INFORMATION (This Information Must Also b	e Completed):
☐ WWH Name:       Distance from Evaluated Stream         ☐ EWH Name:       Distance from Evaluated Stream         ☐ EWH Name:       Distance from Evaluated Stream         MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION         USGS Quadrangle Name:       NRCS Soil Map Page:       NRCS Soil Map Stream Order         County:       Township / City:         MISCELLANEOUS         Base Flow Conditions? (Y/N):       Date of last precipitation:       Quantity:         Photograph Information:         Elevated Turbidity? (Y/N):       Canopy (% open):         Were samples collected for water chemistry? (Y/N):       (Note lab sample no. or id. and attach results) Lab Number:         Field Measures:       Temp ("C)       Dissolved Oxygen (mg/l)       pH (S.U.)       Conductivity (µmhos/cm)         Is the sampling reach representative of the stream (Y/N)       If not, please explain:         BIOTIC EVALUATION         Performed? (Y/N):       (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the stream (P/N)         ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)         Fish Observed? (Y/N)       Voucher? (Y	QHEI PERFORMED? - Tyes No QHEI Score	(If Yes, Attach Completed QHEI Form)
☐ WWH Name:       Distance from Evaluated Stream         ☐ EWH Name:       Distance from Evaluated Stream         ☐ EWH Name:       Distance from Evaluated Stream         MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION         USGS Quadrangle Name:       NRCS Soil Map Page:       NRCS Soil Map Stream Order         County:       Township / City:         MISCELLANEOUS         Base Flow Conditions? (Y/N):       Date of last precipitation:       Quantity:         Photograph Information:         Elevated Turbidity? (Y/N):       Canopy (% open):         Were samples collected for water chemistry? (Y/N):       (Note lab sample no. or id. and attach results) Lab Number:         Field Measures:       Temp ("C)       Dissolved Oxygen (mg/l)       pH (S.U.)       Conductivity (µmhos/cm)         Is the sampling reach representative of the stream (Y/N)       If not, please explain:         BIOTIC EVALUATION         Performed? (Y/N):       (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the stream (P/N)         ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)         Fish Observed? (Y/N)       Voucher? (Y	DOWNSTREAM DESIGNATED USE(S)	
BWH Name:	_	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION  USGS Quadrangle Name:	CWH Name:	Distance from Evaluated Stream
USGS Quadrangle Name:	EWH Name:	Distance from Evaluated Stream
County: Township / City: MISCELLANEOUS  Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photograph Information: Canopy (% open): Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number: Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm) Is the sampling reach representative of the stream (Y/N) If not, please explain: Additional comments/description of pollution impacts:	MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENT	IRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photograph Information: Elevated Turbidity? (Y/N): Canopy (% open): Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number: Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm) Is the sampling reach representative of the stream (Y/N) If not, please explain:  Additional comments/description of pollution impacts:  BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the sidn number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)	USGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photograph Information: Elevated Turbidity? (Y/N): Canopy (% open): Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number: Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm) Is the sampling reach representative of the stream (Y/N) If not, please explain:  Additional comments/description of pollution impacts:  BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the samples in the primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)	County: Townshi	p / City:
Photograph Information:  Elevated Turbidity? (Y/N):  Canopy (% open):  Were samples collected for water chemistry? (Y/N):  [Note lab sample no. or id. and attach results) Lab Number:  Field Measures:  Temp (°C)  Dissolved Oxygen (mg/l)  pH (S.U.)  Conductivity (µmhos/cm)  Is the sampling reach representative of the stream (Y/N)  If not, please explain:  BIOTIC EVALUATION  Performed? (Y/N):  [If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the side in number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N)  Voucher? (Y/N)  Aquatic Macroinvertebrates Observed? (Y/N)  Voucher? (Y/N)	MISCELLANEOUS	
Elevated Turbidity? (Y/N): Canopy (% open):  Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:  Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)  Is the sampling reach representative of the stream (Y/N) If not, please explain:  Additional comments/description of pollution impacts:  BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the substitution in the primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)	Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number: Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (μmhos/cm)	Photograph Information:	
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm) ls the sampling reach representative of the stream (Y/N) If not, please explain: Additional comments/description of pollution impacts: BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the side of the primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (	Elevated Turbidity? (Y/N): Canopy (% open):	<u> </u>
Is the sampling reach representative of the stream (Y/N) If not, please explain:	Were samples collected for water chemistry? (Y/N): (Note lab s	ample no. or id. and attach results) Lab Number:
Additional comments/description of pollution impacts:	Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (μmhos/cm)
BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the substitution of the Primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)	Is the sampling reach representative of the stream (Y/N) If not, pl	ease explain:
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the sID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)	Additional comments/description of pollution impacts:	
ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)	BIOTIC EVALUATION	
Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)	, ,	·
Comments Regarding Biology:		
	Comments Regarding Biology:	

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





### ChieFPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):



SITE NAME/LOCATION			
SITE NUMBER	RIVER BASIN	DRAINAGE AREA (mi²)	
LENGTH OF STREAM REACH (ft)	LAT LONG	RIVER CODE RIVER MILE	
DATE SCORER	COMMENTS		
NOTE: Complete All Items On This Form	- Refer to "Field Evaluation Ma	nual for Ohio's PHWH Streams" for Instru	uctions
STREAM CHANNEL	URAL CHANNEL	☐ RECOVERING ☐ RECENT OR NO RECO	OVERY
(Max of 32). Add total number of significa  TYPE  BLDR SLABS [16 pts]  BOULDER (>256 mm) [16 pts]  BEDROCK [16 pt]  COBBLE (65-256 mm) [12 pts]	nt substrate types found (Max of 8). F  RCENT TYPE SILT [3 pt] LEAF PAC FINE DETF CLAY or H. MUCK [0 p ARTIFICIA  (A) Substrate Perc Check	PERCENT	HHEI Metric Points Substrate Max = 40
2. Maximum Pool Depth (Measure the maevaluation. Avoid plunge pools from road > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]  COMMENTS	culverts or storm water pipes) (Che	0 cm [15 pts] pts] ER OR MOIST CHANNEL [0 pts]	Pool Depth Max = 30
3. BANK FULL WIDTH (Measured as the a > 4.0 meters (> 13') [30 pts]	average of 3-4 measurements)		Bankfull Width Max=30
COMMENTS	AV	ERAGE BANKFULL WIDTH (meters):	
RIPARIAN ZONE AND FLOODPI  RIPARIAN WIDTH  L R (Per Bank)  Wide >10m  Moderate 5-10m  Narrow <5m	This information must also  AIN QUALITY ☆ NOTE: River Lift    FLOODPLAIN QUALITY  L R (Most Predominant per B  Mature Forest, Wetland   Immature Forest, Shrub of   Field  Residential, Park, New F	eft (L) and Right (R) as looking downstream☆  ank)  L R  Conservation Tillage  or Old  Urban or Industrial	op
□ □ None COMMENTS	Fenced Pasture	☐ ☐ Mining or Construction	-
	Í Ì Mo	pist Channel, isolated pools, no flow (Intermittent) y channel, no water (Ephemeral)  ONLY one box):	
STREAM GRADIENT ESTIMATE  Flat (0.5 ft/100 ft)  Flat to Moderate	1.5	√ >3  Moderate to Severe	00 ft)

QHEI PERFORMED? - □ Yes □ No QHEI Score	ADDITIONAL STREAM INFORMATION (This Information Must Also b	e Completed):
☐ WWH Name:       Distance from Evaluated Stream         ☐ EWH Name:       Distance from Evaluated Stream         ☐ EWH Name:       Distance from Evaluated Stream         MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION         USGS Quadrangle Name:       NRCS Soil Map Page:       NRCS Soil Map Stream Order         County:       Township / City:         MISCELLANEOUS         Base Flow Conditions? (Y/N):       Date of last precipitation:       Quantity:         Photograph Information:         Elevated Turbidity? (Y/N):       Canopy (% open):         Were samples collected for water chemistry? (Y/N):       (Note lab sample no. or id. and attach results) Lab Number:         Field Measures:       Temp ("C)       Dissolved Oxygen (mg/l)       pH (S.U.)       Conductivity (µmhos/cm)         Is the sampling reach representative of the stream (Y/N)       If not, please explain:         BIOTIC EVALUATION         Performed? (Y/N):       (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the stream (P/N)         ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)         Fish Observed? (Y/N)       Voucher? (Y	QHEI PERFORMED? - Tyes No QHEI Score	(If Yes, Attach Completed QHEI Form)
☐ WWH Name:       Distance from Evaluated Stream         ☐ EWH Name:       Distance from Evaluated Stream         ☐ EWH Name:       Distance from Evaluated Stream         MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION         USGS Quadrangle Name:       NRCS Soil Map Page:       NRCS Soil Map Stream Order         County:       Township / City:         MISCELLANEOUS         Base Flow Conditions? (Y/N):       Date of last precipitation:       Quantity:         Photograph Information:         Elevated Turbidity? (Y/N):       Canopy (% open):         Were samples collected for water chemistry? (Y/N):       (Note lab sample no. or id. and attach results) Lab Number:         Field Measures:       Temp ("C)       Dissolved Oxygen (mg/l)       pH (S.U.)       Conductivity (µmhos/cm)         Is the sampling reach representative of the stream (Y/N)       If not, please explain:         BIOTIC EVALUATION         Performed? (Y/N):       (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the stream (P/N)         ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)         Fish Observed? (Y/N)       Voucher? (Y	DOWNSTREAM DESIGNATED USE(S)	
BWH Name:	_	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION  USGS Quadrangle Name:	CWH Name:	Distance from Evaluated Stream
USGS Quadrangle Name:	EWH Name:	Distance from Evaluated Stream
County: Township / City: MISCELLANEOUS  Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photograph Information: Canopy (% open): Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number: Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm) Is the sampling reach representative of the stream (Y/N) If not, please explain: Additional comments/description of pollution impacts:	MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENT	IRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photograph Information: Elevated Turbidity? (Y/N): Canopy (% open): Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number: Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm) Is the sampling reach representative of the stream (Y/N) If not, please explain:  Additional comments/description of pollution impacts:  BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the sidn number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)	USGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photograph Information: Elevated Turbidity? (Y/N): Canopy (% open): Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number: Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm) Is the sampling reach representative of the stream (Y/N) If not, please explain:  Additional comments/description of pollution impacts:  BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the samples in the primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)	County: Townshi	p / City:
Photograph Information:  Elevated Turbidity? (Y/N):  Canopy (% open):  Were samples collected for water chemistry? (Y/N):  [Note lab sample no. or id. and attach results) Lab Number:  Field Measures:  Temp (°C)  Dissolved Oxygen (mg/l)  pH (S.U.)  Conductivity (µmhos/cm)  Is the sampling reach representative of the stream (Y/N)  If not, please explain:  BIOTIC EVALUATION  Performed? (Y/N):  [If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the side in number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N)  Voucher? (Y/N)  Aquatic Macroinvertebrates Observed? (Y/N)  Voucher? (Y/N)	MISCELLANEOUS	
Elevated Turbidity? (Y/N): Canopy (% open):  Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:  Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)  Is the sampling reach representative of the stream (Y/N) If not, please explain:  Additional comments/description of pollution impacts:  BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the substitution in the primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)	Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number: Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (μmhos/cm)	Photograph Information:	
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm) ls the sampling reach representative of the stream (Y/N) If not, please explain: Additional comments/description of pollution impacts: BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the side of the primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (	Elevated Turbidity? (Y/N): Canopy (% open):	<u> </u>
Is the sampling reach representative of the stream (Y/N) If not, please explain:	Were samples collected for water chemistry? (Y/N): (Note lab s	ample no. or id. and attach results) Lab Number:
Additional comments/description of pollution impacts:	Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (μmhos/cm)
BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the substitution of the Primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)	Is the sampling reach representative of the stream (Y/N) If not, pl	ease explain:
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the sID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)	Additional comments/description of pollution impacts:	
ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)	BIOTIC EVALUATION	
Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)	, ,	·
Comments Regarding Biology:		
	Comments Regarding Biology:	

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





### ChieFPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):



SITE NAME/LOCATION			
SITE NUMBER	RIVER BASIN	DRAINAGE AREA (mi²)	
LENGTH OF STREAM REACH (ft)	LAT LONG	RIVER CODE RIVER MILE	
DATE SCORER	COMMENTS		
NOTE: Complete All Items On This Form	- Refer to "Field Evaluation Ma	nual for Ohio's PHWH Streams" for Instru	uctions
STREAM CHANNEL	URAL CHANNEL	☐ RECOVERING ☐ RECENT OR NO RECO	OVERY
(Max of 32). Add total number of significa  TYPE  BLDR SLABS [16 pts]  BOULDER (>256 mm) [16 pts]  BEDROCK [16 pt]  COBBLE (65-256 mm) [12 pts]	nt substrate types found (Max of 8). F  RCENT TYPE SILT [3 pt] LEAF PAC FINE DETF CLAY or H. MUCK [0 p ARTIFICIA  (A) Substrate Perc Check	PERCENT	HHEI Metric Points Substrate Max = 40
2. Maximum Pool Depth (Measure the maevaluation. Avoid plunge pools from road > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]  COMMENTS	culverts or storm water pipes) (Che	0 cm [15 pts] pts] ER OR MOIST CHANNEL [0 pts]	Pool Depth Max = 30
3. BANK FULL WIDTH (Measured as the a > 4.0 meters (> 13') [30 pts]	average of 3-4 measurements)		Bankfull Width Max=30
COMMENTS	AV	ERAGE BANKFULL WIDTH (meters):	
RIPARIAN ZONE AND FLOODPI  RIPARIAN WIDTH  L R (Per Bank)  Wide >10m  Moderate 5-10m  Narrow <5m	This information must also  AIN QUALITY ☆ NOTE: River Lift    FLOODPLAIN QUALITY  L R (Most Predominant per B  Mature Forest, Wetland   Immature Forest, Shrub of   Field  Residential, Park, New F	eft (L) and Right (R) as looking downstream☆  ank)  L R  Conservation Tillage  or Old  Urban or Industrial	op
□ □ None COMMENTS	Fenced Pasture	☐ ☐ Mining or Construction	-
	Í Ì Mo	pist Channel, isolated pools, no flow (Intermittent) y channel, no water (Ephemeral)  ONLY one box):	
STREAM GRADIENT ESTIMATE  Flat (0.5 ft/100 ft)  Flat to Moderate	1.5	√ >3  Moderate to Severe	00 ft)

QHEI PERFORMED? - □ Yes □ No QHEI Score	ADDITIONAL STREAM INFORMATION (This Information Must Also b	e Completed):
☐ WWH Name:       Distance from Evaluated Stream         ☐ EWH Name:       Distance from Evaluated Stream         ☐ EWH Name:       Distance from Evaluated Stream         MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION         USGS Quadrangle Name:       NRCS Soil Map Page:       NRCS Soil Map Stream Order         County:       Township / City:         MISCELLANEOUS         Base Flow Conditions? (Y/N):       Date of last precipitation:       Quantity:         Photograph Information:         Elevated Turbidity? (Y/N):       Canopy (% open):         Were samples collected for water chemistry? (Y/N):       (Note lab sample no. or id. and attach results) Lab Number:         Field Measures:       Temp ("C)       Dissolved Oxygen (mg/l)       pH (S.U.)       Conductivity (µmhos/cm)         Is the sampling reach representative of the stream (Y/N)       If not, please explain:         BIOTIC EVALUATION         Performed? (Y/N):       (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the stream (P/N)         ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)         Fish Observed? (Y/N)       Voucher? (Y	QHEI PERFORMED? - Tyes No QHEI Score	(If Yes, Attach Completed QHEI Form)
☐ WWH Name:       Distance from Evaluated Stream         ☐ EWH Name:       Distance from Evaluated Stream         ☐ EWH Name:       Distance from Evaluated Stream         MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION         USGS Quadrangle Name:       NRCS Soil Map Page:       NRCS Soil Map Stream Order         County:       Township / City:         MISCELLANEOUS         Base Flow Conditions? (Y/N):       Date of last precipitation:       Quantity:         Photograph Information:         Elevated Turbidity? (Y/N):       Canopy (% open):         Were samples collected for water chemistry? (Y/N):       (Note lab sample no. or id. and attach results) Lab Number:         Field Measures:       Temp ("C)       Dissolved Oxygen (mg/l)       pH (S.U.)       Conductivity (µmhos/cm)         Is the sampling reach representative of the stream (Y/N)       If not, please explain:         BIOTIC EVALUATION         Performed? (Y/N):       (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the stream (P/N)         ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)         Fish Observed? (Y/N)       Voucher? (Y	DOWNSTREAM DESIGNATED USE(S)	
BWH Name:	_	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION  USGS Quadrangle Name:	CWH Name:	Distance from Evaluated Stream
USGS Quadrangle Name:	EWH Name:	Distance from Evaluated Stream
County: Township / City: MISCELLANEOUS  Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photograph Information: Canopy (% open): Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number: Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm) Is the sampling reach representative of the stream (Y/N) If not, please explain: Additional comments/description of pollution impacts:	MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENT	IRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photograph Information: Elevated Turbidity? (Y/N): Canopy (% open): Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number: Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm) Is the sampling reach representative of the stream (Y/N) If not, please explain:  Additional comments/description of pollution impacts:  BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the sidn number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)	USGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photograph Information: Elevated Turbidity? (Y/N): Canopy (% open): Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number: Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm) Is the sampling reach representative of the stream (Y/N) If not, please explain:  Additional comments/description of pollution impacts:  BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the samples in the primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)	County: Townshi	p / City:
Photograph Information:  Elevated Turbidity? (Y/N):  Canopy (% open):  Were samples collected for water chemistry? (Y/N):  [Note lab sample no. or id. and attach results) Lab Number:  Field Measures:  Temp (°C)  Dissolved Oxygen (mg/l)  pH (S.U.)  Conductivity (µmhos/cm)  Is the sampling reach representative of the stream (Y/N)  If not, please explain:  BIOTIC EVALUATION  Performed? (Y/N):  [If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the side in number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N)  Voucher? (Y/N)  Aquatic Macroinvertebrates Observed? (Y/N)  Voucher? (Y/N)	MISCELLANEOUS	
Elevated Turbidity? (Y/N): Canopy (% open):  Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:  Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)  Is the sampling reach representative of the stream (Y/N) If not, please explain:  Additional comments/description of pollution impacts:  BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the substitution in the primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)	Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number: Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (μmhos/cm)	Photograph Information:	
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm) ls the sampling reach representative of the stream (Y/N) If not, please explain: Additional comments/description of pollution impacts: BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the side of the primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (	Elevated Turbidity? (Y/N): Canopy (% open):	<u> </u>
Is the sampling reach representative of the stream (Y/N) If not, please explain:	Were samples collected for water chemistry? (Y/N): (Note lab s	ample no. or id. and attach results) Lab Number:
Additional comments/description of pollution impacts:	Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (μmhos/cm)
BIOTIC EVALUATION  Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the substitution of the Primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)	Is the sampling reach representative of the stream (Y/N) If not, pl	ease explain:
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the sID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)	Additional comments/description of pollution impacts:	
ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)  Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)	BIOTIC EVALUATION	
Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)	, ,	·
Comments Regarding Biology:		
	Comments Regarding Biology:	

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





### ChieFPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):



SITE NAME/LOCATION				
SITE NUMBER	RIVER BASIN	DRAINAGE AREA (mi²)		
LENGTH OF STREAM REACH (ft)	LAT LONG	RIVER CODE RIVER MILE		
DATE SCORER	COMMENTS			
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions				
STREAM CHANNEL				
(Max of 32). Add total number of significa  TYPE  BLDR SLABS [16 pts]  BOULDER (>256 mm) [16 pts]  BEDROCK [16 pt]  COBBLE (65-256 mm) [12 pts]	nt substrate types found (Max of 8). F  RCENT TYPE SILT [3 pt] LEAF PACE FINE DETF CLAY or HA MUCK [0 p ARTIFICIA  (A) Substrate Perc Check	PERCENT	HHEI Metric Points Substrate Max = 40	
2. Maximum Pool Depth (Measure the maevaluation. Avoid plunge pools from road > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]  COMMENTS	culverts or storm water pipes) (Che	0 cm [15 pts] pts] ER OR MOIST CHANNEL [0 pts]	Pool Depth Max = 30	
3. BANK FULL WIDTH (Measured as the a > 4.0 meters (> 13') [30 pts]	average of 3-4 measurements)		Bankfull Width Max=30	
COMMENTS	AVI	ERAGE BANKFULL WIDTH (meters):		
RIPARIAN ZONE AND FLOODPI  RIPARIAN WIDTH  L R (Per Bank)  Wide >10m  Moderate 5-10m  Narrow <5m	This information must also  AIN QUALITY ☆ NOTE: River Loft FLOODPLAIN QUALITY  L R (Most Predominant per B  Mature Forest, Wetland Immature Forest, Shrub of Field  Residential, Park, New F	eft (L) and Right (R) as looking downstream ☆  ank)  L R  Conservation Tillage  or Old  Urban or Industrial  Open Pasture, Row Cro	р	
□ □ None COMMENTS	Fenced Pasture	☐ ☐ Mining or Construction		
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None  None  None  None  None  None  None  None  None  Check ONLY one box):  2.0  3.0				
STREAM GRADIENT ESTIMATE  Flat (0.5 ft/100 ft)  Flat to Moderate	1.5	✓ Severe (10 ft/10	0 ft)	

QHEI PERFORMED? -  Yes  No QHEI Score(If Yes, Attach Completed Compounds and Downstream Designated Use(s)    WWH Name:	
□ WWH Name: Distance from   □ CWH Name: Distance from   ■ EWH Name: Distance from   WAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEAR   USGS Quadrangle Name: NRCS Soil Map Page:   NRCS Soil Map Page: NRCS Soil Map Page:   MISCELLANEOUS   Base Flow Conditions? (Y/N): Date of last precipitation:   Photograph Information: Quantity:   Elevated Turbidity? (Y/N): Canopy (% open):	QHEI Form)
□ WWH Name: Distance from   □ CWH Name: Distance from   ■ EWH Name: Distance from   WAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEAR   USGS Quadrangle Name: NRCS Soil Map Page:   NRCS Soil Map Page: NRCS Soil Map Page:   MISCELLANEOUS   Base Flow Conditions? (Y/N): Date of last precipitation:   Photograph Information: Quantity:   Elevated Turbidity? (Y/N): Canopy (% open):	
■ EWH Name:	n Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEAR USGS Quadrangle Name: NRCS Soil Map Page: N County: Township / City:  MISCELLANEOUS  Base Flow Conditions? (Y/N): Date of last precipitation: Quantity:  Photograph Information:  Elevated Turbidity? (Y/N): Canopy (% open):	n Evaluated Stream
USGS Quadrangle Name: NRCS Soil Map Page: N  County: Township / City:  MISCELLANEOUS  Base Flow Conditions? (Y/N): Date of last precipitation: Quantity:  Photograph Information:  Elevated Turbidity? (Y/N): Canopy (% open):	Evaluated Stream
County:	RLY MARK THE SITE LOCATION
MISCELLANEOUS  Base Flow Conditions? (Y/N): Date of last precipitation: Quantity:_  Photograph Information:  Elevated Turbidity? (Y/N): Canopy (% open):	IRCS Soil Map Stream Order
Base Flow Conditions? (Y/N): Date of last precipitation: Quantity:_  Photograph Information:  Elevated Turbidity? (Y/N): Canopy (% open):	
Photograph Information:  Elevated Turbidity? (Y/N): Canopy (% open):	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach result	
, , ,	ts) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conduction	ctivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:	
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all vouc ID number. Include appropriate field data sheets from the Primary Headwater	•
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Advantage of the control of the c	
Comments Regarding Biology:	

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



APPENDIX F -USFWS AND ODNR LISTED SPECIES INFORMATION

#### Harrison, Brooke

From: Ohio, FW3 <ohio@fws.gov>
Sent: Friday, March 4, 2022 9:04 AM

**To:** Harrison, Brooke

**Cc:** nathan.reardon@dnr.state.oh.us; Parsons, Kate

**Subject:** Ford Street Pipeline Replacement, Lucas County, Ohio

Follow Up Flag: Follow up Flag Status: Flagged



UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. Fish and Wildlife Service
Ecological Services Office
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / Fax (614) 416-8994



Project Code: 2022-0010749

Dear Ms. Harrison,

The U.S Fish and Wildlife Service (Service) has received your recent correspondence requesting information about the subject proposal. We offer the following comments and recommendations to assist you in minimizing and avoiding adverse impacts to threatened and endangered species pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq), as amended (ESA).

Federally Threatened and Endangered Species: The endangered Indiana bat (*Myotis sodalis*) and threatened northern long-eared bat (*Myotis septentrionalis*) occur throughout the State of Ohio. The Indiana bat and northern long-eared bat may be found wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and breed that may also include adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, woodlots, fallow fields, and pastures. Roost trees for both species include live and standing dead trees ≥3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities. These roost trees may be located in forested habitats as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves, rock crevices and abandoned mines.

Seasonal Tree Clearing for Federally Listed Bat Species: Should the proposed project site contain trees  $\geq 3$  inches dbh, we recommend avoiding tree removal wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees  $\geq 3$  inches dbh cannot be avoided, we recommend removal of any trees  $\geq 3$  inches dbh only occur between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to Indiana bats and northern long-eared bats. While incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule

(see <a href="http://www.fws.gov/midwest/endangered/mammals/nleb/index.html">http://www.fws.gov/midwest/endangered/mammals/nleb/index.html</a>), incidental take of Indiana bats is still

prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

If implementation of this seasonal tree cutting recommendation is not possible, a summer presence/absence survey may be conducted for Indiana bats. If Indiana bats are not detected during the survey, then tree clearing may occur at any time of the year. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Ohio Field Office. Surveyors must have a valid federal permit. Please note that in Ohio summer mist net surveys may only be conducted between June 1 and August 15.

Section 7 Coordination: If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), then no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence. This letter provides technical assistance only and does not serve as a completed section 7 consultation document.

Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus is it important to conserve the functions and values of the remaining wetlands in Ohio (https://epa.ohio.gov/portals/47/facts/ohio\_wetlands.pdf). We recommend avoiding and minimizing project impacts to all wetland habitats (e.g., forests, streams, vernal pools) to the maximum extent possible in order to benefit water quality and fish and wildlife habitat. Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the U.S. Army Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. Disturbed areas should be mulched and revegetated with native plant species. In addition, prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

Due to the project type, size, and location, we do not anticipate adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical habitat. Should the project design change, or additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, coordination with the Service should be initiated to assess any potential impacts.

Thank you for your efforts to conserve listed species and sensitive habitats in Ohio. We recommend coordinating with the Ohio Department of Natural Resources due to the potential for the proposed project to affect state listed species and/or state lands. Contact Mike Pettegrew, Acting Environmental Services Administrator, at (614) 265-6387 or at <a href="mailto:mike.pettegrew@dnr.state.oh.us">mike.pettegrew@dnr.state.oh.us</a>.

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or <a href="mailto:ohio@fws.gov">ohio@fws.gov</a>.

Sincerely,

Patrice Ashfield

Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW Kate Parsons, ODNR-DOW



## Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Fax: (614) 267-4764

Office of Real Estate John Kessler, Chief 2045 Morse Road – Bldg. E-2 Columbus, OH 43229 Phone: (614) 265-6621

March 16, 2022

Brooke Harrison Burns & McDonnell 530 West Spring Street, Suite 200 Columbus, OH 43215

Re: 22-0137; Ford Street Pipeline Project

**Project:** The proposed project consists of the installation of approximately 3.6 miles of 30-inch diameter high pressure gas distribution pipeline to connect three stations into main feeds with associated valve sites for the station feeds.

**Location:** The proposed project is located in the City of Maumee, Lucas County, Ohio.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

**Natural Heritage Database:** The Natural Heritage Database has the following data at or within one mile of the project area:

Rayed bean (*Villosa fabalis*), state endangered, federally endangered Sharp-shinned hawk (*Accipiter striatus*), state species of concern

The review was performed on the project area specified in the request as well as an additional one-mile radius. Records searched date from 1980. Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for an area is not a statement that rare species or unique features are absent from that area.

An additional search for unique ecological sites, scenic rivers, state nature preserves, wildlife areas, national wildlife refuges, parks, forests, and other protected natural areas indicates that the following sites occur within one mile of the project area:

Maumee State Scenic River – ODNR Natural Areas & Preserves, Scenic Rivers Program Fort Meigs State Memorial – Ohio History Connection Fallen Timbers Battlefield – Metroparks Toledo Side Cut Metropark – Metroparks Toledo

Fish and Wildlife: The Division of Wildlife (DOW) has the following comments.

The DOW recommends that impacts to streams, wetlands and other water resources be avoided and minimized to the fullest extent possible, and that Best Management Practices be utilized to minimize erosion and sedimentation.

The entire state of Ohio is within the range of the Indiana bat (Myotis sodalis), a state endangered and federally endangered species, the northern long-eared bat (Myotis septentrionalis), a state endangered and federally threatened species, the little brown bat (Myotis lucifugus), a state endangered species, and the tricolored bat (Perimyotis subflavus), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH  $\geq$  20 if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING". If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31. However, limited summer tree cutting may be acceptable after consultation with the DOW (contact Erin Hazelton at Erin.hazelton@dnr.ohio.gov).

The DOW also recommends that a desktop habitat assessment is conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the project area. Direction on how to conduct habitat assessments can be found in the current USFWS "Rangewide Indiana Bat Survey Guidelines." If a habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the project area, please send this information to Erin Hazelton for project recommendations. If a potential or known hibernaculum is found, the DOW recommends a 0.25-mile tree cutting and subsurface disturbance buffer around the hibernaculum entrance, however, limited summer or winter tree cutting may be acceptable after consultation with the DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species.

The project is within the range of the following listed mussel species. Federally Endangered rayed bean (*Villosa fabalis*) snuffbox (*Epioblasma triquetra*)

<u>State Endangered</u> eastern pondmussel (*Ligumia nasuta*)

State Threatened black sandshell (*Ligumia recta*) fawnsfoot (*Truncilla donaciformis*) pondhorn (*Uniomerus tetralasmus*) threehorn wartyback (*Obliquaria reflexa*) Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact these species.

The project is within the range of the of the following listed fish species.

State Endangered

cisco (Coregonus artedi) lake sturgeon (Acipenser fulvescens)

western banded killifish (Fundulus diaphanus menona)

#### State Threatened

American eel (*Anguilla rostrata*) channel darter (*Percina copelandi*) greater redhorse (*Moxostoma valenciennesi*)

The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

The project is within the range of the Blanding's turtle (*Emydoidea blandingii*), a state threatened species. This species inhabits marshes, ponds, lakes, streams, wet meadows, and swampy forests. Although essentially aquatic, the Blanding's turtle will travel over land as it moves from one wetland to the next. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the spotted turtle (*Clemmys guttata*), a state threatened species. This species prefers fens, bogs and marshes, but also is known to inhabit wet prairies, meadows, pond edges, wet woods, and the shallow sluggish waters of small streams and ditches. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the Kirtland's snake (*Clonophis kirtlandii*), a state threatened species. This secretive species prefers wet fields and meadows. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the blue-spotted salamander (*Ambystoma laterale*), a state endangered species. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the American bittern (*Botaurus lentiginosus*), a state endangered bird. Nesting bitterns prefer large undisturbed wetlands that have scattered small pools amongst dense vegetation. They occasionally occupy bogs, large wet meadows, and dense shrubby swamps. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the black-crowned night-heron (*Nycticorax nycticorax*), a state-threatened bird. Night-herons are so named because they are nocturnal, conducting most of their foraging in the evening hours or at night, and roost in trees near wetlands and waterbodies during the day. Night herons are migratory and are typically found in Ohio from April 1 through December 1 but can be found in more urbanized areas with reliable food sources year-round.

Black-crowned night-herons primarily forage in wetlands and other shallow aquatic habitats, and roost in trees nearby. These night-herons nest in small trees, saplings, shrubs, or sometimes on the ground, near bodies of water and wetlands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the black tern (*Chlidonias niger*), a state endangered bird. The black tern prefers large, undisturbed inland marshes with fairly dense vegetation and pockets of open water. They nest in various kinds of marsh vegetation but cattail marshes are generally favored. Nests are built on top of muskrat houses or on top of floating vegetation. If this type of habitat will be impacted, construction should be avoided in this habitat from April 1 through June 30 to reduce impacts to this species. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the common tern (*Sterna hirundo*), a state endangered bird. The preferred nesting sites of common terns are natural or man-made islands that are free of mammalian predators and human disturbance. They will also utilize mainland beaches and dredge disposal areas but only when islands are unavailable. The common tern nests in colonies. Their eggs are laid in a grass-lined depression in the sand. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the king rail (*Rallus elegans*), a state endangered bird. Nests for this species are deep bowls constructed out of grass and usually hidden very well in marsh vegetation. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the lark sparrow (*Chondestes grammacus*), a state endangered bird. This sparrow nests in grassland habitats with scattered shrub layers, disturbed open areas, as well as patches of bare soil. These summer residents normally migrate out of Ohio shortly after their young fledge or leave the nest. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the least bittern (Ixobrychus exilis), a state threatened bird. This secretive marsh species prefers dense emergent wetlands with dense, tall growths of aquatic or semiaquatic vegetation (particularly cattail, sedge, rushes, arrowheads, or sawgrass) interspersed with clumps of woody vegetation and open water. Nests are made from dried vegetation suspended .5 to 2.5 feet above the water. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the northern harrier (*Circus hudsonis*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species'

nesting period of April 15 through July 31. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the sandhill crane (*Grus canadensis*), a state threatened species. Sandhill cranes are primarily a wetland-dependent species. On their wintering grounds, they will utilize agricultural fields; however, they roost in shallow, standing water or moist bottomlands. On breeding grounds they require a rather large tract of wet meadow, shallow marsh, or bog for nesting. If grassland, prairie, or wetland habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 1 through August 31. If this habitat will not be impacted, this project is not likely to have an impact on this species.

The project is within the range of the snowy egret (*Egretta thula*), a state endangered species. Snowy egrets are only being found reliably in the western Lake Erie marshes. This small egret almost invariably nests in mixed heronries. Within their breeding colonies, snowy egrets normally place their nests in the middle levels of vegetation at heights of 3-10 feet. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this habitat will not be impacted, the project is not likely to impact this species. (Lake Erie Islands only)

The project is within the range of the trumpeter swan (*Cygnus buccinator*), a state threatened bird. Trumpeter swans prefer large marshes and lakes ranging in size from 40 to 150 acres. They like shallow wetlands one to three feet deep with a diverse mix of plenty of emergent and submergent vegetation and open water. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through June 15. If this habitat will not be impacted, this project is not likely to have an impact on this species.

The project is within the range of the upland sandpiper (*Bartramia longicauda*), a state endangered bird. Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (CRP). If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

Due to the potential of impacts to federally listed species, as well as to state listed species, we recommend that this project be coordinated with the US Fish & Wildlife Service.

Water Resources: The Division of Water Resources has the following comment.

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project. Your local floodplain administrator contact information can be found at the website below.

http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List\_8\_16.pdf

ODNR appreciates the opportunity to provide these comments. Please contact Mike Pettegrew at <a href="mike.pettegrew@dnr.ohio.gov">mike.pettegrew@dnr.ohio.gov</a> if you have questions about these comments or need additional information.

Mike Pettegrew Environmental Services Administrator