Edenville Dam – Gladwin and Midland Counties, Michigan

Four Lakes Task Force and Spicer Group, Inc.

Wetland Delineation Report

Prepared by:



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Appendix A Survey Photographs

Appendix B Wetland Delineation Data Forms – Northcentral and Northeast Region

ACRONYM LIST

bgs Below ground surface

ESRI Environmental Systems Research Institute

FLTF Four Lakes Task Force

GIS Geographic Information System
GPS Global Positioning System

Merjent, Inc.

NHD National Hydrography Dataset
NWI National Wetland Inventory
OHWM Ordinary High-Water Mark
PEM Palustrine Emergent
PFO Palustrine Forest
PSS Palustrine Shrub-Scrub
Spicer Group, Inc.

USACE U.S. Army Corps of Engineers

USDA-NRCS U.S. Department of Agriculture-National Resource Conservation Service

USGS U.S. Geological Survey

WETS Climate Analysis for Wetlands Tables

1.0 INTRODUCTION

Merjent performed a wetland delineation in Gladwin and Midland Counties, Michigan, for FLTF and Spicer's Edenville Dam project (Project).

In May 2020, Midland and Gladwin Counties experienced an extreme rainfall event that led to the catastrophic failure of the Edenville and Sanford Dams on the Tittabawasee River. This event led to the drawdowns of Secord, Smallwood, Wixom, and Sanford Lakes. Following the dam failures, the FLTF was formed and acquired the Edenville, Sanford, Secord, and Smallwood Dams located along the Tittawabasee River. The FLTF retained Spicer to initiate a Recovery and Feasibility Study and Design Phase to explore options for maintenance at Secord and Smallwood Dams, and restoration at Edenville and Sanford Dams. This will be followed by a Restoration Phase planned to be completed by 2026.

The wetland delineation report will be used to support future maintenance and restoration activities, planning, and identify potential project permits. The associated survey area is depicted in all accompanying figures.

Based on a field investigation conducted by Merjent on March 15,16, and 22, 2021, and review of desktop resources, it is our professional opinion that thirty-four wetlands totaling 43.41 acres (Table 1-1) exist within the 184.21-acre survey area.

	TABLE 1-1		
	Summary of Wetland	ds	
Wetland ID	Cowardin Classification	Size (sq. ft.)	Size (acres)
w01	Assumed Wetland (PEM)*	1,480,359	33.98
w02	PFO	162,265	3.73
w02	PEM	8,909	0.20
w03	PFO	2,830	0.06
w04	PEM	721	0.02
w05	PSS	54,210	1.24
w06	PSS	11,868	0.27
w07	PEM	311	0.01
w08	PFO	406	0.01
w09	PEM	9,515	0.22
w10	PUB	2,962	0.07
w11	PEM	2,772	0.06
w12	PEM	1,677	0.04
w13	PEM	936	0.02
w14	PEM	1,521	0.03
w14	PUB	24,025	0.55
w15	PEM	3,913	0.09
w16	PEM	890	0.02
w17	PEM	21,968	0.50
w17	PFO	9,218	0.21
w18	PEM	4,532	0.10
w19	PEM	505	0.01
w20	PEM	925	0.02
w21	PEM	2,390	0.05
w22	PFO	776	0.02

	TABLE 1-1					
Summary of Wetlands						
Wetland ID	Cowardin Classification	Size (sq. ft.)	Size (acres)			
w23	PFO	2,031	0.05			
w24	PFO	708	0.02			
w25	PFO	11,152	0.26			
w26	PEM	5,057	0.12			
w27	PEM	2,063	0.05			
w28	PEM	5,456	0.13			
w29	PEM	3,567	0.08			
w30	PSS	10,843	0.25			
w31	PEM	15,845	0.36			
w32	PEM	2,295	0.05			
w33	PEM	13,769	0.32			
w34	PEM	8,389	0.19			
	Total	1,891,578	43.41			

^{*} Delineated boundaries of w01 are approximate as unsafe/unstable terrain and steep slopes limited access to old lake bottom areas.

This report outlines the wetland delineation investigation, methodology, and its findings as completed by Merjent. This report has been compiled by the following staff that are trained and experienced in delineation methodologies and applicable regulations:

• Erin Vander Stelt - Environmental Analyst; Report Author, Field Biologist

Erin Vander Stelt is an Environmental Analyst specializing in environmental field surveys and desktop reviews for threatened and endangered species, wetland delineations, and floristic quality inventories in the upper Midwest. She has over a decade of experience and training in plant identification and habitat assessments in the upper Midwest and six years of experience serving oil and gas, private, academic, electric, transportation, and development sectors as well as state and federal agencies.

• Ken Leister - Senior Environmental Analyst; Field Biologist

Mr. Leister is a Senior Analyst, Project Manager, and Field Biologist with over ten years of experience in ecological resource assessments and permitting for clients from various industries. His expertise includes providing project management and permitting services to clients regarding state and federal environmental laws and regulations including the Bald and Golden Eagle Protection Act, Migratory Bird Treaty Act, Endangered Species Act, Clean Water Act, National Pollution Discharge Elimination System, and National Environmental Policy Act. In addition to project management and permitting expertise, Mr. Leister is a Certified Wildlife Biologist and has experience conducting field surveys for a range of ecological resources. Past project work has included wetland delineation, general endangered species assessments and species-specific surveys for federally- and state-listed endangered species including bats, birds, reptiles, and plants.

• Robb Roos – Senior Environmental Analyst; Field Manager

Robb has worked in the fields of wetland ecology and ecological restoration for over ten years. He holds a Master of Science degree in Biology from Grand Valley State University. Robb has led wetland delineation and threatened and endangered species survey field teams for over ten years on projects throughout the Midwest and has also completed, and

instructs, State- and USACE-based wetland delineation trainings. He is currently certified as a Wetland Professional by the Society of Wetland Scientists and leads wetland delineations, habitat surveys, report writing, and permitting while managing a variety of projects.

• Becky Norris - Environmental Analyst; GIS Analyst, Field Biologist

Ms. Norris is a GIS Analyst and Field Biologist with over six years of experience in GIS, data analysis, and technical support for several projects throughout the United States. Ms. Norris regularly conducts and performs GIS management for wetland delineations, habitat assessments, and other field surveys. In particular, she specializes in preparing comprehensive environmental impact analysis reports for federal and state permit applications.

2.0 METHODS

2.1 BACKGROUND INFORMATION

Desktop resources were used to identify potential wetlands on the site. Sources of information that were consulted to identify potential wetlands within the survey area prior to field investigation are listed below:

- USGS Topographical Map (Figure 2)
- NWI (Figure 3)
- NHD (Figure 3)
- USDA-NRCS Web Soil Survey Database for Gladwin County, MI (Figure 4)
- ESRI Basemap 2016 Aerial Imagery (Figure 5)
- Google Earth™ Aerial Imagery (multiple years)

2.2 INVESTIGATION METHODOLOGY

The delineation of wetlands and other waters of the state were based on the methodology described in the U.S. Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast, as required by current policy. Waterways were identified in accordance with the USACE Jurisdictional Determination Form Instructional Guidebook (USACE-U.S. Environmental Protection Agency, 2007).

Prior to the field work, background information was reviewed to establish the potential location of wetlands and waterways within the survey area. Next, a general reconnaissance of the entire survey area was conducted to evaluate site conditions. On March 15, 16, and 22, 2021, the survey area was walked with the specific intent of determining wetland boundaries. Data points were sampled during this time at locations within and near the wetland areas to document soil characteristics, evidence of hydrology, and dominant vegetation. Vegetative community boundaries were identified according to the Cowardin Classification System (Cowardin et al., 1979).

2.2.1 Naming Protocol

Features identified in associated figures and appendices are named in the following manner:

- Wetlands (w01, w02, etc.)
- Streams (s01, s02, etc.)
- Data points (dp01, dp02, etc.)
- Photo points (pp01, pp02, etc.)

2.2.2 Site Photographs

Photographs (Appendix A) provide a visual representation of wetland communities and boundaries, as well as general site conditions at the time of inspection. Photos are geospatially referenced by their associated photo point location and presented with direction taken (e.g., "pp01 view West," "pp02 view Northeast"). Photo point locations are depicted in the wetland delineation figure (Figure 5).

2.2.3 Delineation Data Sheets

The wetland determination data forms (Appendix B) are the written documentation of how representative data points meet or do not meet each of the wetland criteria (USACE, 2011). Plant species nomenclature follows the Regional Wetland Plant List (USACE, 2018). Soils were identified using the methods outlined in Field Indicators of Hydric Soils in the United States, Version 8.2 (USDA-NRCS, 2018).

2.2.4 Survey of Wetland Boundary

Merjent surveyed all data point locations and wetland boundaries using GPS technology capable of sub-meter accuracy. While these surveys provide reasonably accurate spatial data, they do not provide the same level of accuracy as a professional land survey. Wetland boundaries were flagged during the field survey where acquisition of more precise survey data by Spicer was required.

3.0 RESULTS AND DISCUSSION

3.1 DESKTOP REVIEW

3.1.1 USGS Topographic Map

The USGS topographic map (Figure 2) shows flat to gently sloping areas on either side of the Tobacco and Tittabawassee Rivers that become steeper as they approach the banks of the river. Steep slopes also exist along the edges of the Edenville Dam berm.

3.1.2 Soil Survey

The NRCS soil map of the survey area (Figure 4) identified 16 soil types, six of which are hydric (Table 3-1).

	TABLE 3-1							
	Mapped Soil Units							
Symbol	Description	Hydric Soil Unit?	Acres					
BI	Belleville loamy sand	Yes	7.48					
Сс	Ceresco loam	No	14.27					
CsB/CvB	Covert sandy, loamy substratum, 0 to 6 percent slopes	No	30.09					
Ev	Evart loamy sand	Yes	9.67					
GmB	Grattan sand, loamy substratum, 0 to 6 percent slopes	No	3.42					
GtB	Grattan sand, 0 to 6 percent slopes	No	17.38					
InB	Ingersoll silt loam, 0 to 3 percent slopes	No	10.67					
MeB	Menominee sand, 2 to 6 percent slopes	No	0.66					
MnD	Menominee sand, 6 to 14 percent slopes	No	14.05					
Pc	Pickford loam	Yes	1.36					
Pe	Pella silt loam	Yes	4.40					
Pg	Pits, gravel	Unranked	2.23					
Rc	Roscommon soils	Yes	0.93					
SeA/WxA	Selfridge loamy sand, 0 to 3 percent slopes	No	13.24					
Sz	Sloam loam	Yes	0.98					
W	Water	Unranked	53.38					
		Total	184.21					

3.1.3 Mapped Wetlands

The NWI map of the survey area (Figure 3) shows approximately 65.08 acres of wetlands of eight types (Table 3-2). Forested wetlands are mapped along the edges of the Tobacco and Tittabawassee Rivers, in the southeast portion of the survey area within the historic forest below the Edenville Dam, and in the forested west portion of the survey area. Scrub-shrub wetlands are located along the margins of the historic Wixom Lake lakebed as well as in the west portion of the survey area. The lacustrine wetlands are mapped within the historic Wixom Lake lakebed. Riverine wetlands are mapped in the current Tobacco River and historic Tittabawassee River courses.

	TABLE 3-2							
	Mapped NWI Features							
Symbol	Description	Acres						
L1UBHh	Lacustrine, limnetic, unconsolidated bottom, permanently flooded, diked/impounded	42.03						
PFO1A	Palustrine forested, broad-leaved deciduous, temporary flooded	3.68						
PFO1C	Palustrine forested, broad-leaved deciduous, seasonally flooded	4.58						
PSS1C	Palustrine scrub-shrub, broad-leaved deciduous, seasonally flooded	0.68						
PSS1Cx	Palustrine scrub-shrub, broad-leaved deciduous, seasonally flooded, excavated	0.49						
PUBGx	Palustrine, unconsolidated bottom, intermittently exposed, excavated	1.10						
R2UBH	Riverine, lower perennial, unconsolidated bottom, permanently flooded	12.45						
R5UBFx	Riverine, unknown perennial, unconsolidated bottom, semipermanently flooded, excavated	0.07						
	Total	65.08						

3.1.4 Current, Historic, and High-Resolution Aerial Imagery

Multiple sources of historic aerial imagery were reviewed to evaluate the survey area for wetland signatures. Based on this review, possible wetland signatures were identified throughout the survey area.

3.1.5 Recent Climatic Conditions and Precipitation Data

Recent precipitation data were compared with historic precipitation data from a 50-year dataset (1971-2021) from a nearby WETS weather station (Gladwin, MI) to determine if normal hydrologic and climatic conditions were present on-site during the delineation. When compared, the observed precipitation data from three months prior to the delineation indicated normal precipitation conditions at the time of the delineation (Table 3-3).

TABLE 3-3

				WETS A	Analysis				
	Long-	term rainfall ı	records (1971	-2021)					
WETS Station GLADWIN, MI	Month	<30%	Mean	>30%	Actual	Condition	Condition Value	Weight	Value X Weight
3rd Prior Month	December	1.47	2.16	2.58	2.54	Normal	2	1	2
2nd Prior Month	January	1.29	1.98	2.38	1.23	Dry	1	2	2
1st Prior Month	February	0.91	1.49	1.81	1.14	Normal	2	3	6
								Sum:	10
If sum is:					Condition V	alues:	Cond	litions On Site:	Normal
6 to 9	then prior peri	od has been o	frier than norma	al	(1) Dry	'			

(2) Normal

(3) Wet

3.2 GENERAL SITE CONDITIONS

then prior period has been normal

then prior period has been wetter than normal

10 to 14

15 to 18

Based on the field survey and review of desktop resources, it is our professional opinion that 34 wetlands totaling 43.42 acres and two waterways exist within the survey area (Figure 5). Descriptions of the wetlands and waterway are provided below.

Land use on site includes Wixom Lake in the north and northeast survey area, bounded on its southern edge by the Edenville Dam berm. The Tobacco River runs mainly north to south and a small distance east to west within the western half of the survey area. The current Tittabawassee River runs northeast to southwest within the far southeast section of the survey area through what was historically the eastern section of the Edenville Dam and forest below the dam. East of M-30 is a maintained work area with gravel two-tracks and drainage ditches. Along the historic and current Tittabawassee River courses as well as on both sides of the Tobacco River are areas of undeveloped forest. West of the current Tittabawassee River course is an area of scarified open area from the May 2020 flood event.

3.2.1 Uplands

The majority of the upland areas within the survey area are forested or mowed/maintained drives and parking/staging areas. The forested areas are located on either side of the Tobacco and Tittabawassee Rivers. These undeveloped forested areas have a dense tree stratum with paper birch (*Betula papyrifera*), quaking aspen (*Populus tremuloides*), eastern white pine (*Pinus strobus*), American beech (*Fagus grandifolia*), eastern arborvitae (*Thuja occidentalis*), red oak (*Quercus rubra*), and white oak (*Quercus alba*). The shrub stratum is sparse with common buckthorn (*Rhamnus cathartica*), American witch-hazel (*Hamamelis virginiana*), Russian olive (*Elaeagnus angustifolia*), and saplings of the species in the tree stratum. The herb stratum is sparse to bare, with scattered farewell-summer (*Symphyotrichum lateriflorum*) and tall souringrush (*Equisetum hyemale*). Forested areas are topographically diverse with intermixed upland and wetland areas.

East of M-30 is maintained lawn and work/staging area with gravel two-tracks and excavated drainage ditches. The tree and shrub strata are sparse to bare, with scattered black cherry (*Prunus serotina*), eastern cottonwood (*Populus deltoides*), common buckthorn, and Russian olive. The herb stratum is moderate to densely covered with Kentucky bluegrass (*Poa pratensis*), common milkweed (*Asclepias syriaca*), orchard grass (*Dactylis glomerata*), and spotted knapweed (*Centaurea stoebe*). A similar area exists in the far west corner of the survey area along Hunter Road extending along the southern boundary of the Edenville Dam berm to the Tobacco River spillway.

3.2.2 Wetlands

A total of 34 wetlands were identified to community type within the survey area (Figure 5) according to Cowardin classification. Summaries of these features are provided below (Table 3-4), and more detailed information for associated data points may be found in wetland determination forms (Appendix B).

			TAE	BLE 3-4		
			Delineate	ed Wetlands		
Wetland ID	Community Type	Acreage	Hydrology Indicators	Dominant Vegetation	Hydric Soil Indicators	Associated Data Points
w01	Assumed Wetland (PEM)	33.98	Delineated boundaries are approximate as unsafe/unstable terrain and steep slopes limited access to old lake bottom areas	-	-	-
w02	PFO	3.73	High Water Table (A2), Saturation (A3), Geomorphic Position (D2), Microtopographic Relief (D4), FAC- Neutral Test (D5)	Red maple (Acer rubrum, FAC), American hornbeam (Carpinus caroliniana, FAC), northern lady fern (Athyrium angustum, FAC)	Sandy Mucky Mineral (S1), Stripped Matrix (S6), Dark Surface (S7)	dp04
w02	PEM	0.20	Drainage ditch wetland with similar characteristics to w11. A separate data point was not recorded for w02.	-	-	dp13
w03	PFO	0.06	Surface Water (A1), High Water Table (A2), Saturation (A3), Water-Stained Leaves (B9), Geomorphic Position (D2), FAC-Neutral Test (D5)	Eastern cottonwood, American elm (<i>Ulmus americana</i> , FACW), common buckthorn, red osier (<i>Cornus alba</i> , FACW), farewell-summer	Histic Epipedon (A2) and Depleted Matrix (F3)	dp01
w04	PEM	0.02	Drainage ditch wetland with similar characteristics to w11. A separate data point was not recorded for w02.	-	-	dp13
w05	PSS	1.24	Saturation (A3), Sediment Deposits (B2), Water-Stained Leaves (B9), Geomorphic Position (D2), FAC-Neutral Test (D5)	American elm, paper birch, red osier, pussy willow (Salix discolor, FACW), Virginia wild rye (Elymus virginicus, FACW)	Stipped Matrix (S6) and High Chroma Sands (S11)	dp07
w06	PSS	0.27	Sediment Deposits (B2), Water- Stained Leaves (B9), Geomorphic Position (D2), FAC-Neutral Test (D5)	Red maple, common buckthorn, Virginia wild rye, northern bracken fern (<i>Pteridium</i> aquilinum, FACU)	Loamy Mucky Mineral (F1) and Redox Dark Surface (F6)	dp10
w07	PEM	0.01	Drainage ditch wetland with similar characteristics to w11. A separate data point was not recorded for w07.	-	-	dp13
w08	PFO	0.01	High Water Table (A2), Saturation (A3), Drainage Patterns (B10), Geomorphic Position (D2)	Common buckthorn, eastern woodland sedge (<i>Carex blanda</i> , FAC)	Sandy Mucky Mineral (S1) and Sandy Redox (S5)	dp09
w09	PEM	0.22	High Water Table (A2), Saturation (A3), Thin Muck Surface (C7), Geomorphic Position (D2), FAC- Neutral Test (D5)	Eastern arborvitae, green ash (<i>Fraxinus</i> pennsylvanica, FACW), common buckthorn, lamp rush (<i>Juncus effusus</i> , OBL), cottongrass bulrush (<i>Scirpus cyperinus</i> , OBL)	Depleted Matrix (F3)	dp12

w10	PUB	0.07	Wetland w10 was hydrologically connected to w09 and exhibited similar characteristics. A separate data point was not recorded for w10.	-	-	dp12
w11	PEM	0.06	Drainage Patterns (B10), Geomorphic Position (D2), FAC-Neutral Test (D5)	Reed canary grass (<i>Phalaris arundinacea</i> , FACW) and lamp rush	2 cm Muck (A10)	dp13
w12	PEM	0.04	Drainage ditch wetland with similar characteristics to w11. A separate data point was not recorded for w12.	-	-	dp13
w13	PEM	0.02	Drainage ditch wetland with similar characteristics to w11. A separate data point was not recorded for w13.	-	-	dp13
w14	PEM	0.03	Drainage ditch wetland with similar characteristics to w15. A separate data point was not recorded for w13.	-	-	dp15
w14	PUB	0.55	Open water pond	-	-	
w15	PEM	0.09	High Water Table (A2), Saturation (A3), Water-Stained Leaves (B9), Drainage Patterns (B10), Geomorphic Position (D2), FAC-Neutral Test (D5)	Lamp rush and cottongrass bulrush	Depleted Matrix (F3)	dp15
w16	PEM	0.02	High Water Table (A2), Saturation (A3), Water-Stained Leaves (B9), Drainage Patterns (B10), Geomorphic Position (D2), FAC-Neutral Test (D5)	Porcupine sedge (Carex hystericina, OBL) and common panic grass (Panicum capillare, FAC)	High Chroma Sands (S11)	dp16
w17	PEM	0.50	Wetland w17 was hydrologically connected to w18 and exhibited similar characteristics. A separate data point was not recorded for w17.	-	-	dp30
w17	PFO	0.21	High Water Table (A2), Saturation (A3), Water-Stained Leaves (B9), Oxidized Rhizospheres on Living Roots (C3), Drainage Patterns (B10), Geomorphic Position (D2), FACNeutral Test (D5)	Common buckthorn, green ash, reed canary grass	Sandy Redox (S5)	dp27
w18	PEM	0.10	High Water Table (A2), Saturation (A3), Drainage Patterns (B10), Geomorphic Position (D2), FAC- Neutral Test (D5)	Lamp rush, porcupine sedge, red osier	Sandy Redox (S5)	dp30
w19	PEM	0.01	High Water Table (A2), Saturation (A3), Algal Mat or Crust (B4), Drainage Patterns (B10), Geomorphic Position (D2), FAC-Neutral Test (D5)	Lamp rush, eastern woodland sedge, red osier	Sandy Redox (S5)	dp29
w20	PEM	0.02	Water-Stained Leaves (B9), Geomorphic Position (D2), FAC- Neutral Test (D5)	Porcupine sedge and red osier	Sandy Mucky Mineral (S1)	dp26

w21	PEM	0.05	High Water Table (A2), Saturation (A3), Water-Stained Leaves (B9), Thin Muck Surface (C7), Geomorphic Position (D2), FAC-Neutral Test (D5)	Common buckthorn and reed canary grass	Histic Epipedon (A2), Depleted Matrix (F3)	dp24
w22	PFO	0.02	Surface Water (A1), High Water Table (A2), Saturation (A3), Water-Stained Leaves (B9), Drainage Patterns (B10)	Farewell-summer	Histic Epipedon (A2), Sandy Mucky Mineral (S1)	dp20
w23	PFO	0.05	Surface Water (A1), High Water Table (A2), Saturation (A3), Water-Stained Leaves (B9), Drainage Patterns (B10), FAC-Neutral Test (D5)	Green ash and eastern arborvitae	Sandy Mucky Mineral (S1)	dp18
w24	PFO	0.02	High Water Table (A2), Saturation (A3), Sparsely Vegetated Concave Surface (B8), Water-Stained Leaves (B9), Drainage Patterns (B10)	No vegetation	Sandy Mucky Mineral (S1)	dp21
w25	PFO	0.26	High Water Table (A2), Saturation (A3), Sparsely Vegetated Concave Surface (B8), Geomorphic Position (D2), FAC-Neutral Test (D5)	Silver maple (Acer saccharinum, FACW), eastern arborvitae, common buckthorn	Depleted Matrix (F3)	dp36
w26	PEM	0.12	High Water Table (A2), Saturation (A3), Geomorphic Position (D2), FAC-Neutral Test (D5)	Red osier	Significantly disturbed soil; sediment deposited from prior flooding	dp39
w27	PEM	0.05	Depressional wetland on scarified floodplain with similar characteristics to w26. A separate datapoint for w27 was not recorded.	-	-	dp39
w28	PEM	0.13	Depressional wetland on scarified floodplain with similar characteristics to w26. A separate datapoint for w27 was not recorded.	-	-	dp39
w29	PEM	0.08	Depressional wetland on scarified floodplain with similar characteristics to w26. A separate datapoint for w27 was not recorded.	-	-	dp39
w30	PSS	0.25	Depressional wetland on scarified floodplain with similar characteristics to w26. A separate datapoint for w27 was not recorded.	-	-	dp39
w31	PEM	0.36	Drainage Patterns (B10), FAC-Neutral Test (D5)	Green ash and bluejoint (<i>Calamagrostis</i> canadensis, OBL)	Sandy Redox (S5)	dp32
w32	PEM	0.05	Saturation (A3), Drainage Patterns (B10)	Rough cocklebur (<i>Xanthium strumarium</i> , FAC)	Naturally problematic soil; soil presumed hydric due to hydrophytic vegetation and indicators of hydrology; historic lake bed soil lacks hydric indicators	dp34

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w33	PEM	0.32	High Water Table (A2), Saturation (A3), Geomorphic Position (D2), FAC- Neutral Test (D5)	Common buckthorn, purple meadow-rue (<i>Thalictrum dasycarpum</i> , FACW), late goldenrod (<i>Solidago gigantea</i> , FACW), purple-leaf willowherb (<i>Epilobium coloratum</i> , OBL)	Redox Dark Surface (F6)	dp42
w34	PEM	0.19	Drainage Patterns (B10), Geomorphic Position (D2), FAC-Neutral Test	Purple meadow-rue, reed canary grass	Naturally problematic soil; soil frozen, soil presumed hydric due to hydrophytic vegetation and indicators of hydrology	dp41

3.3 NATURALLY PROBLEMATIC AND SIGNIFICANTLY DISTURBED DATAPOINTS

The soils at wetland datapoint dp13 are significantly disturbed. This datapoint was taken in a wetland drainage ditch which receives erosion input regularly from the sandy ditch edges as well as from the flooding event in May 2020. This erosion input of sand masks hydric soil indicators.

Vegetation at wetland datapoint dp21 is naturally problematic. This wetland is a sparsely vegetated concave surface with no vegetation currently visible. Hydrophytic vegetation is assumed based on conditions in nearby similar wetlands as well as the presence of hydric soil indicators and hydrology.

Vegetation and soil at dp31 and dp38 are significantly disturbed. Both areas are currently bare without vegetation yet colonizing after scarification from floodwaters. The soil is significantly disturbed with silt and clay deposits from flooding as well as a restrictive frozen layer of hard pan clay.

The soils at wetland datapoint dp34 are naturally problematic. This wetland datapoint was taken in the historic Wixom Lake lakebed. The soil profile is all clay with large amounts of prominent redox features. Historically, these soils would have been completely inundated year-round and have not been exposed long enough to develop hydric indicators of wetland soils.

Soils at wetland datapoints dp36 and dp37 are significantly disturbed, both presenting hydric indicators. The top two layers of soil contained silt, clay, and sand deposits from prior flooding. At wetland datapoint dp36, the historic wetland muck and peat exists at 12 inches bgs. At upland datapoint dp37, historic wetland muck exists at 11 inches bgs; however, this layer was observed to be completely dry, whereas dp36 had a thoroughly saturated muck layer at 12 inches bgs. While dp36 has hydrophytic vegetation and hydrology, dp37 does not meet requirements for hydrology or hydrophytic vegetation.

Soils and vegetation at dp38 and dp39 are significantly disturbed. Vegetation is significantly disturbed due to scarification and low re-colonization post-flooding; though, current early colonizing vegetation at dp39 is hydrophytic. Soils are disturbed due to significant scarification from flood waters and sand deposits post-flooding that have not had sufficient time to develop hydric indicators.

Soils at dp40 and dp41 are naturally problematic because the soil was frozen at the surface. Soil was presumed hydric at dp40 due to presence of hydrology and hydrophytic vegetation.

3.4 WATERWAYS

Merjent determined that two waterways exist within the survey area. The Tobacco River flows out of the west spillway in the Edenville Dam and through the survey area west of M-30. The Tobacco River has remained within its historic riverbed. The Tittabawassee River flows from north to south through the breached area on the east edge of the historic Edenville Dam berm. The Tittabawassee currently flows through a new channel to the historic one exiting the east spillway of the Edenville Dam. Its current course transects what was historically forest. The prior spillway channel is currently not flowing. Because of steep slopes and unsafe and unstable terrain, access was limited to waterways. The approximate current edges of these waterways are provided in Figure 5. Representative photographs of waterways are provided in Appendix A.

3.5 OTHER WATER RESOURCES IDENTIFIED

Wixom Lake is located north of the Edenville Dam. The Tobacco River and the Tittabawassee River run north to south through the Wixom Lake basin, the Tobacco River to the west and the Tittabawassee River to the east. The lake basin is reduced from its historic size on both the east and west edges as well as in the central portion between the Tobacco and Tittabawassee Rivers. Because of steep slopes and unsafe and unstable terrain, access was limited to the old lake bottom areas. Approximate current Wixom Lake margins are shown in Figure 5. One unnamed pond (w10 in Figure 5) exists east of M-30 and is bounded by w14.

4.0 SUMMARY AND CONCLUSION

Merjent performed a wetland delineation for the Edenville Dam project in Gladwin and Midland Counties, Michigan.

Based on the field survey, it is our professional opinion that 34 wetlands totaling 43.42 acres and two waterways exist within the 184.21-acre survey area. This report represents our best professional judgment based on our local knowledge and experience.

5.0 DISCLAIMER

The wetlands identified for this report may be subject to regulation by federal, state, and/or local jurisdiction. These authorities may require a professional land survey of the delineated boundaries to verify impacts for regulatory purposes.

The field survey results presented herein apply to the existing and reasonably foreseeable site conditions at the time of the assessment. They cannot apply to site changes of which Merjent is unaware and has not had the opportunity to review. Changes in the condition of a property may occur with time due to the natural processes or human impacts at the project site or on adjacent properties. Changes in applicable standards may also occur as a result of legislation or the expansion of knowledge over time. Accordingly, the findings of this report may be invalidated, wholly or in part, by changes beyond the control of Merjent.

6.0 LITERATURE CITED

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Figure 1 Location Map

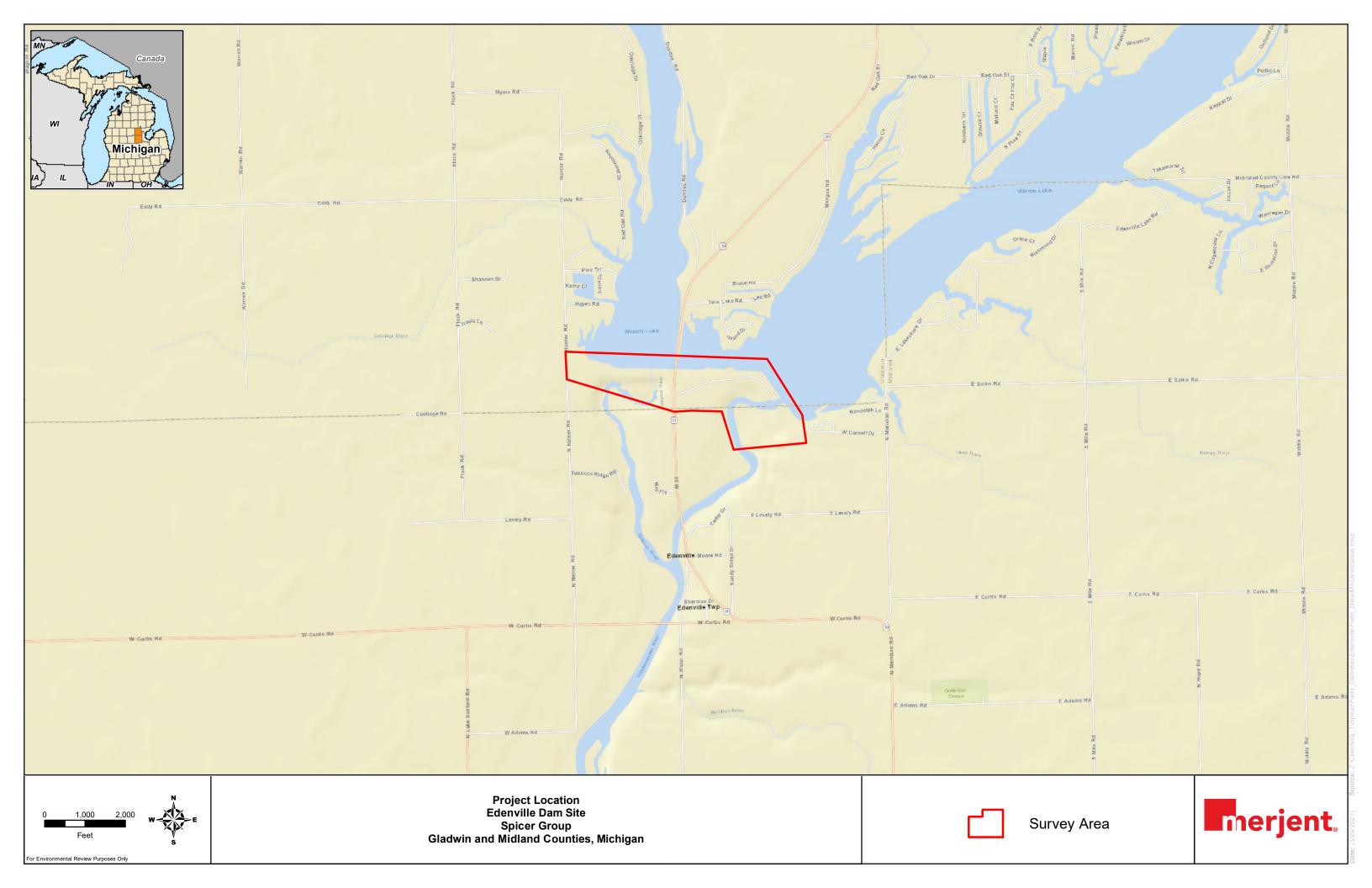


Figure 2
Topography

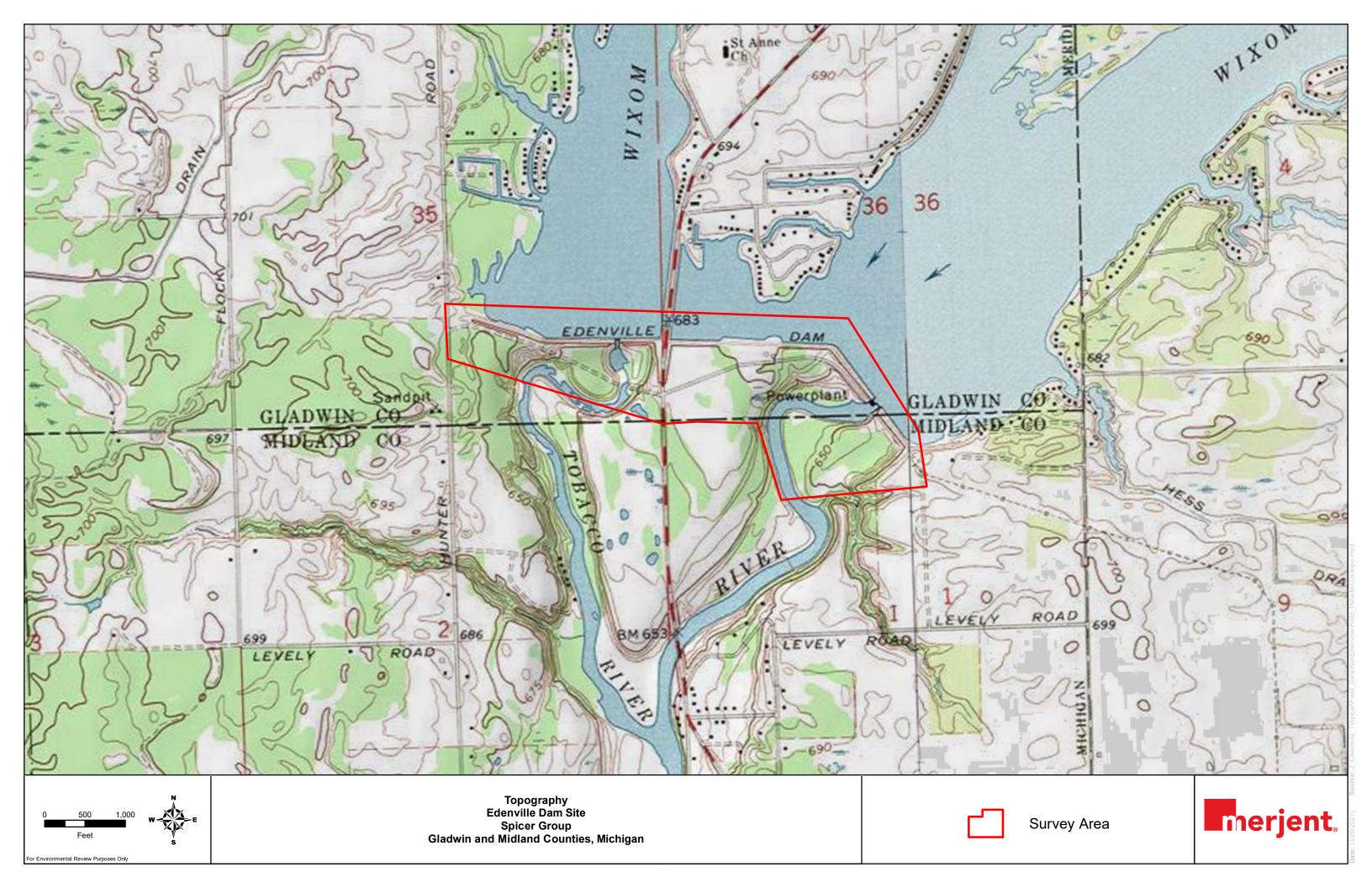


Figure 3 Hydrology

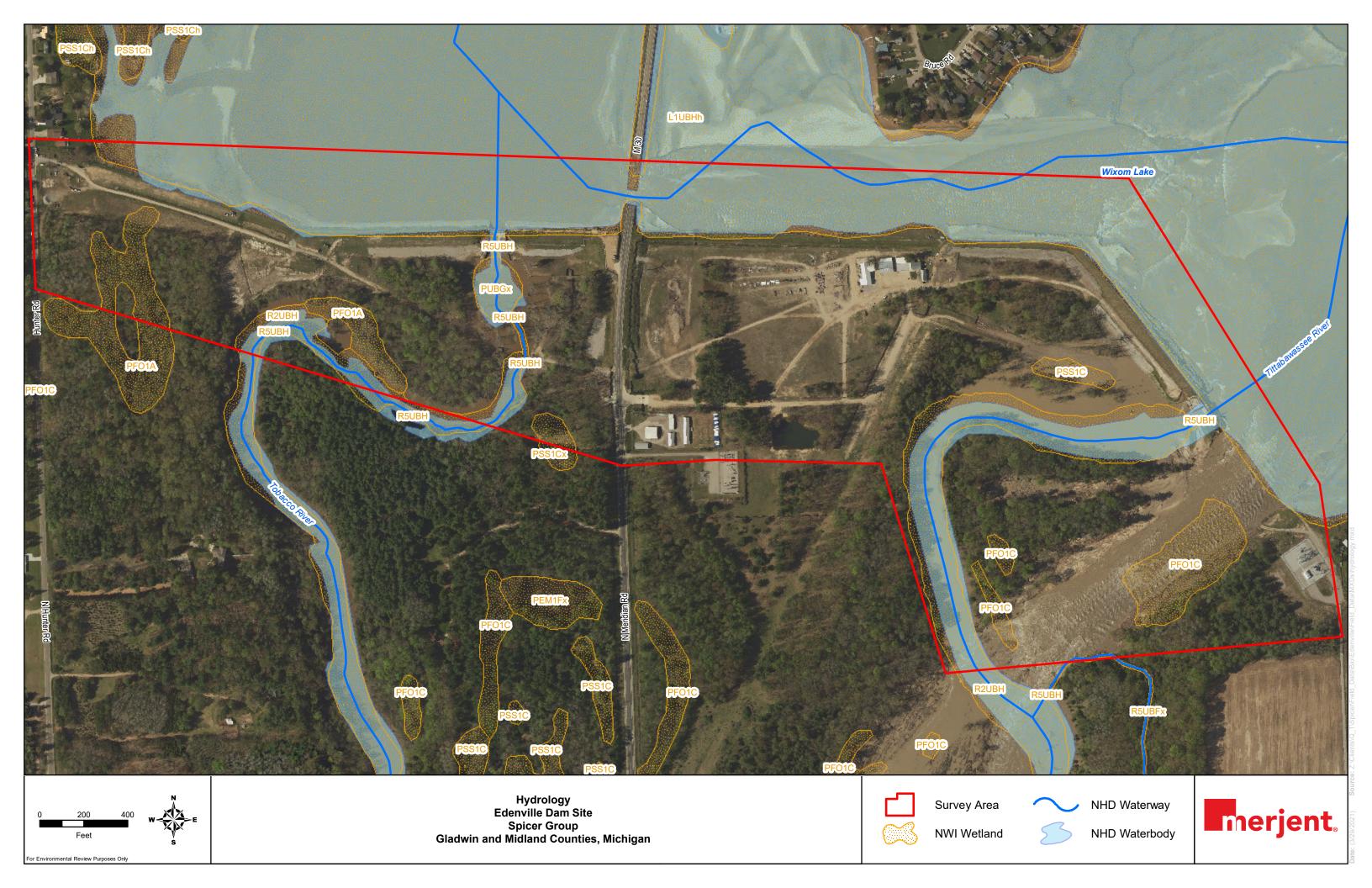


Figure 4 SSURGO Soil Type

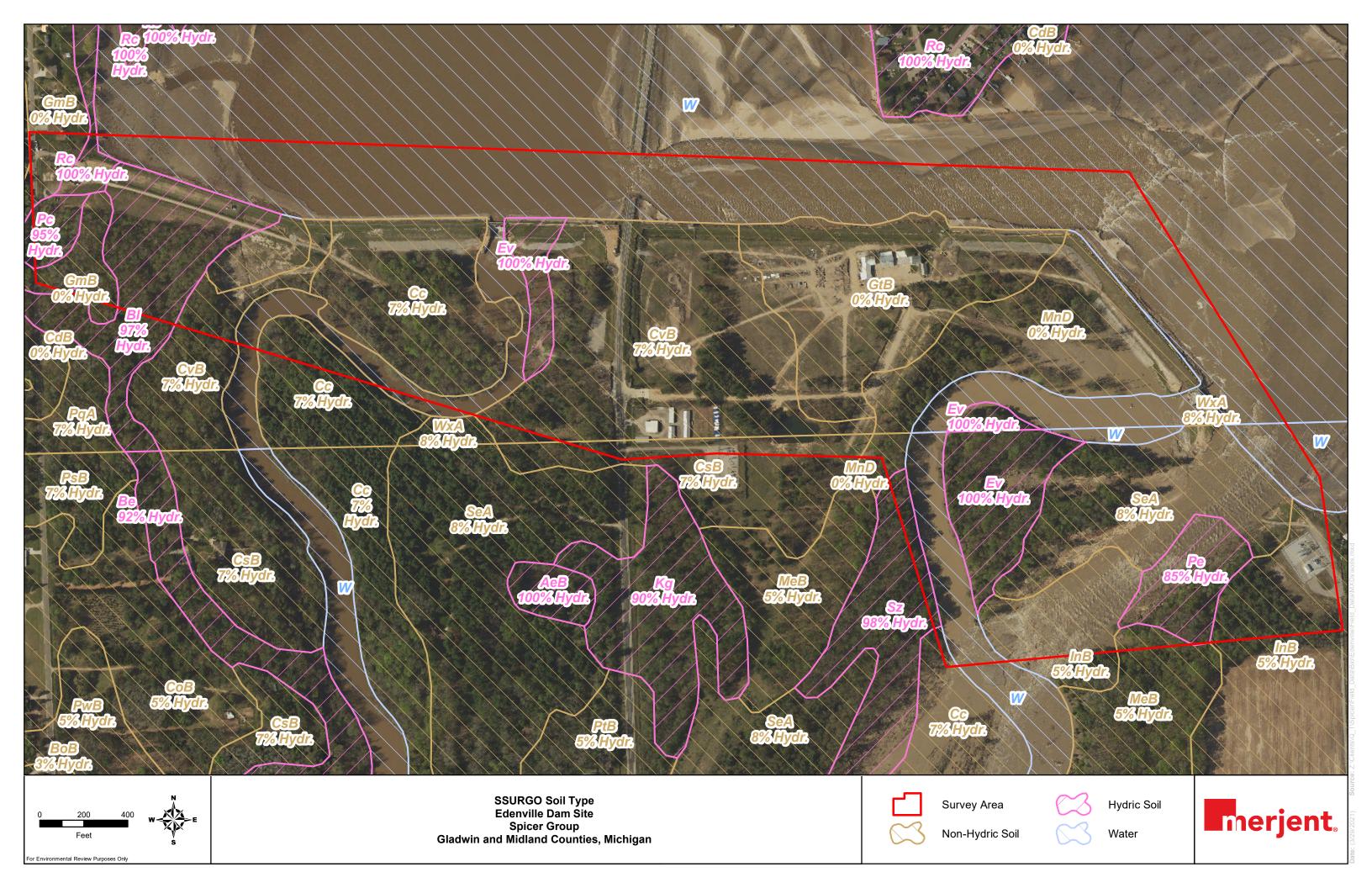
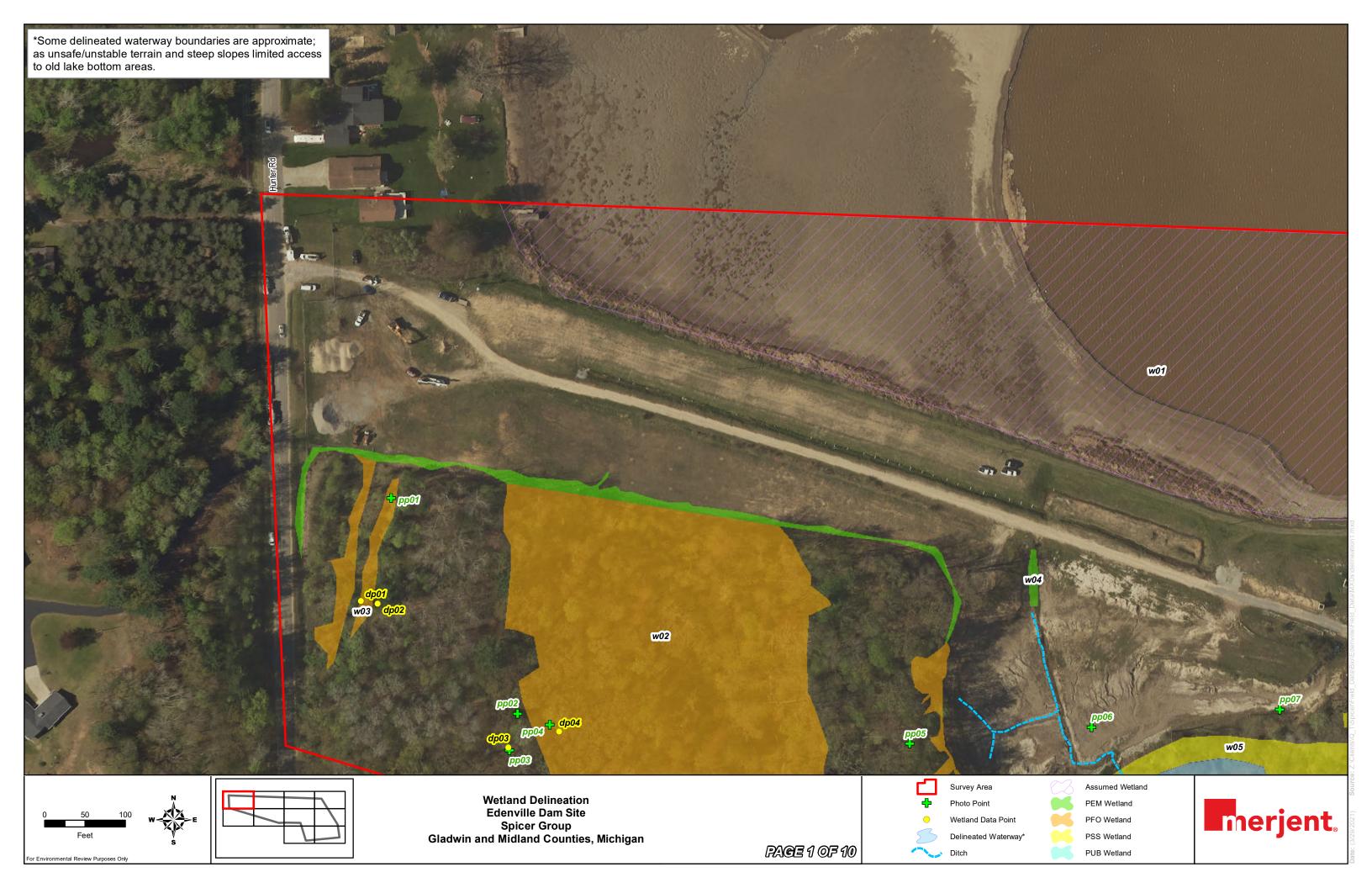
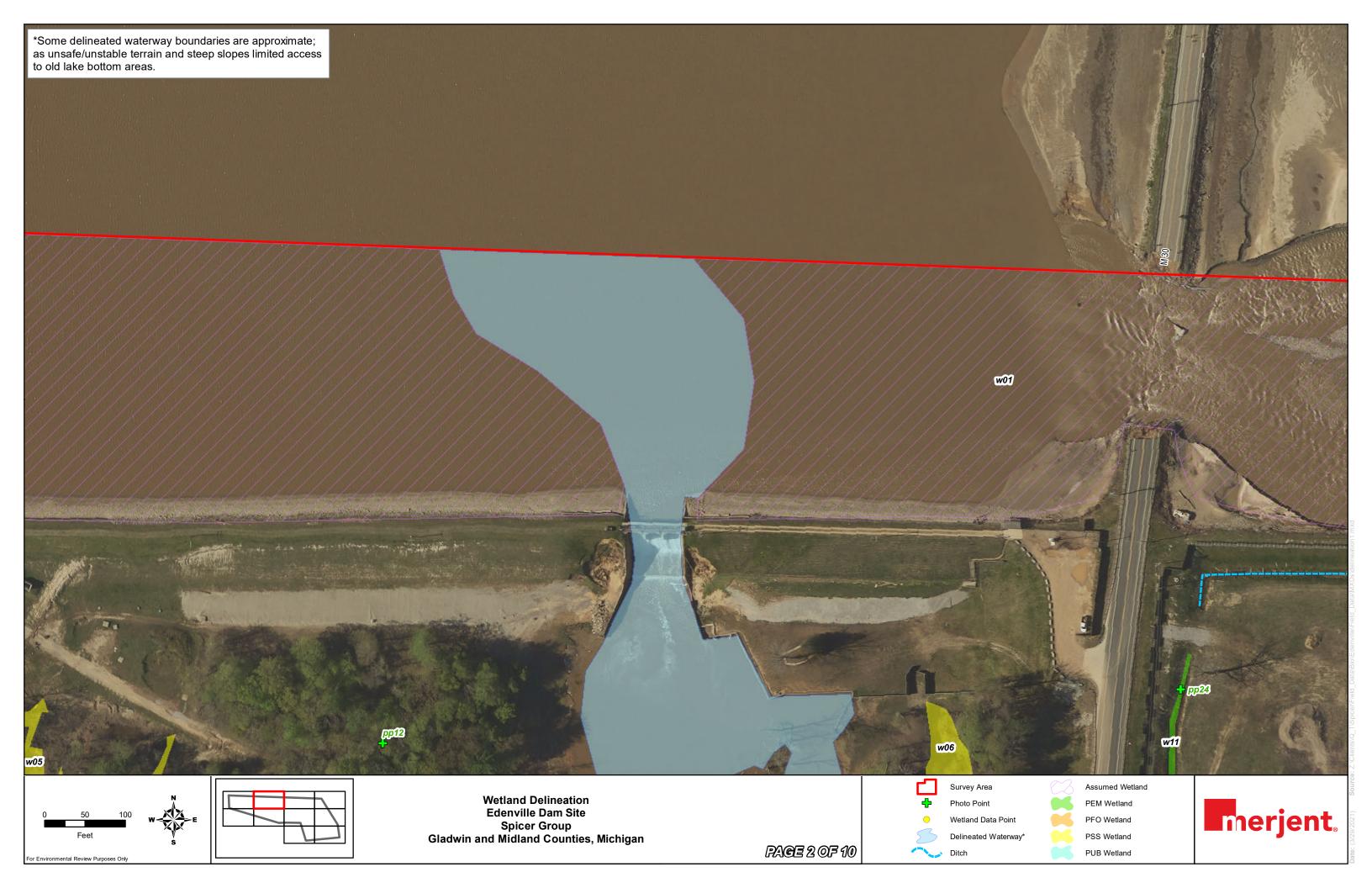
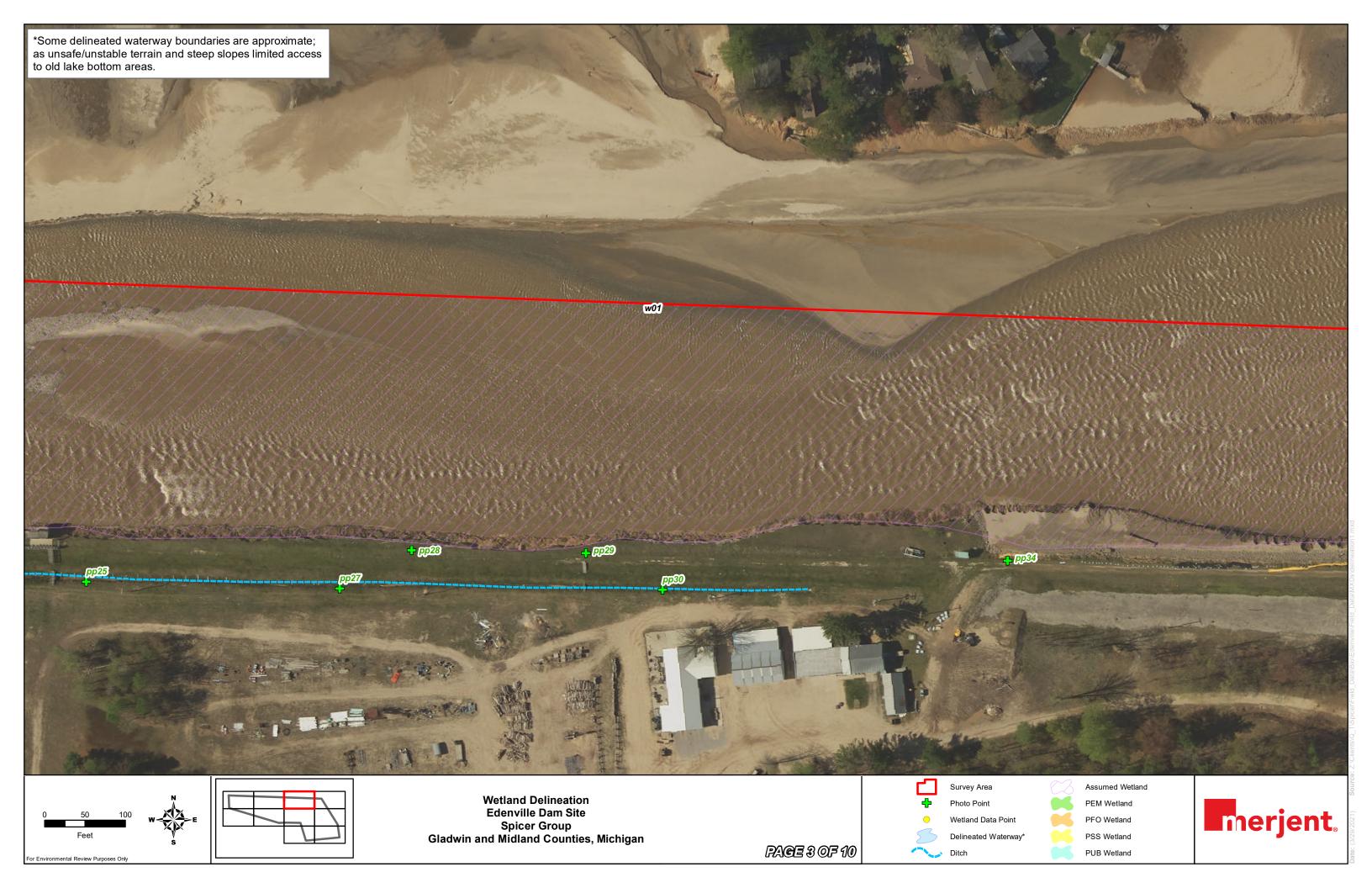
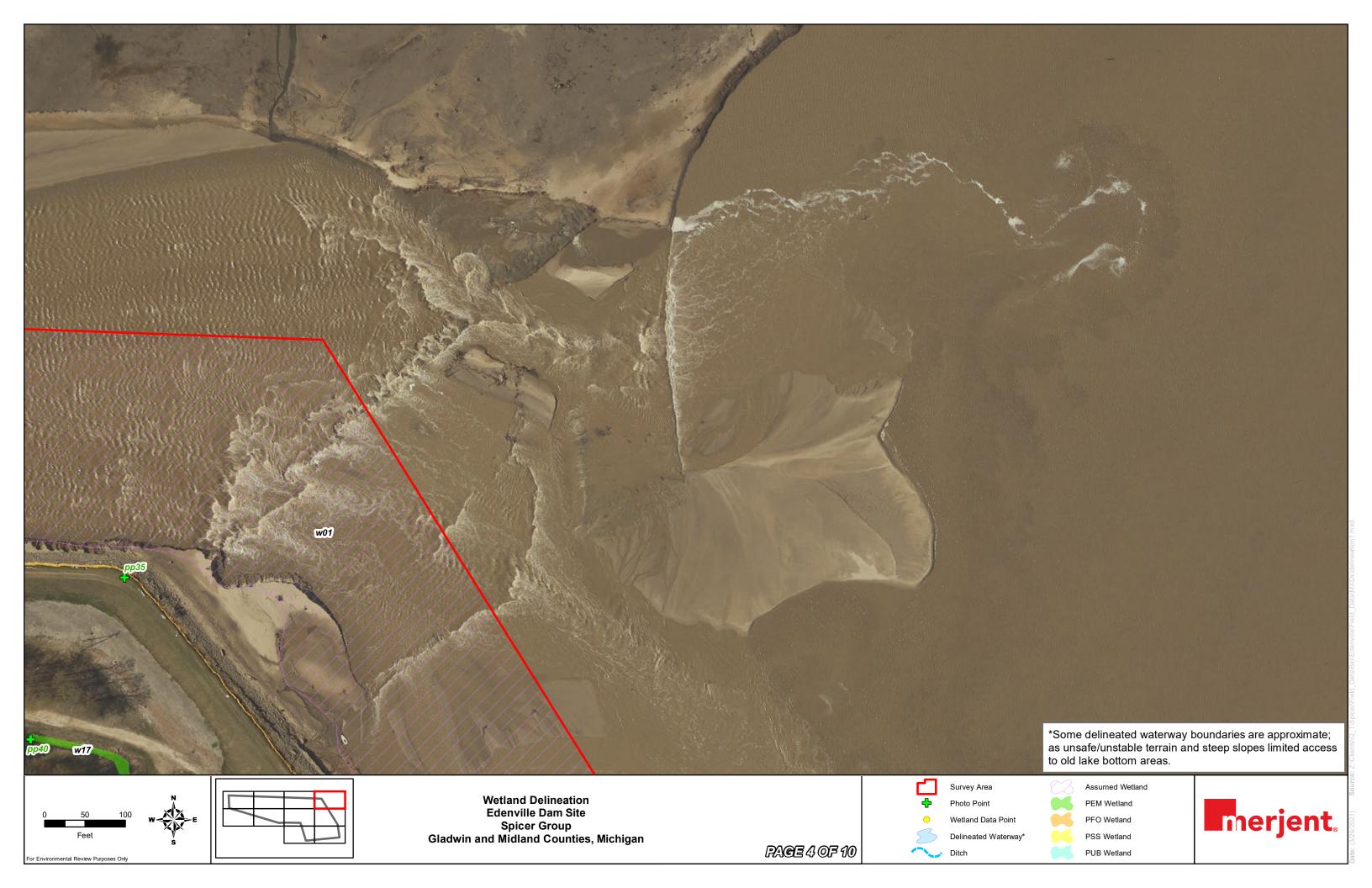


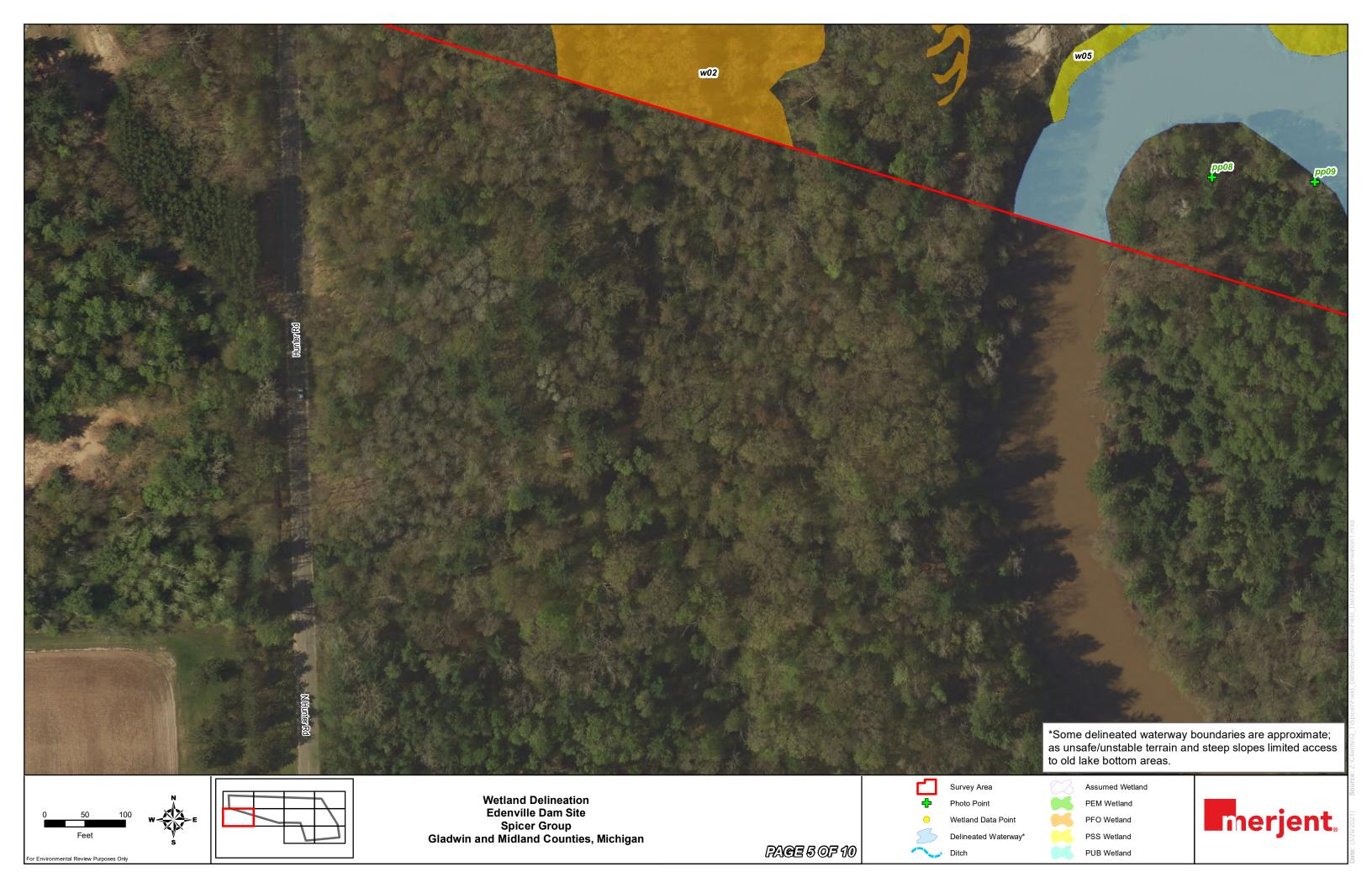
Figure 5 Wetland Delineation

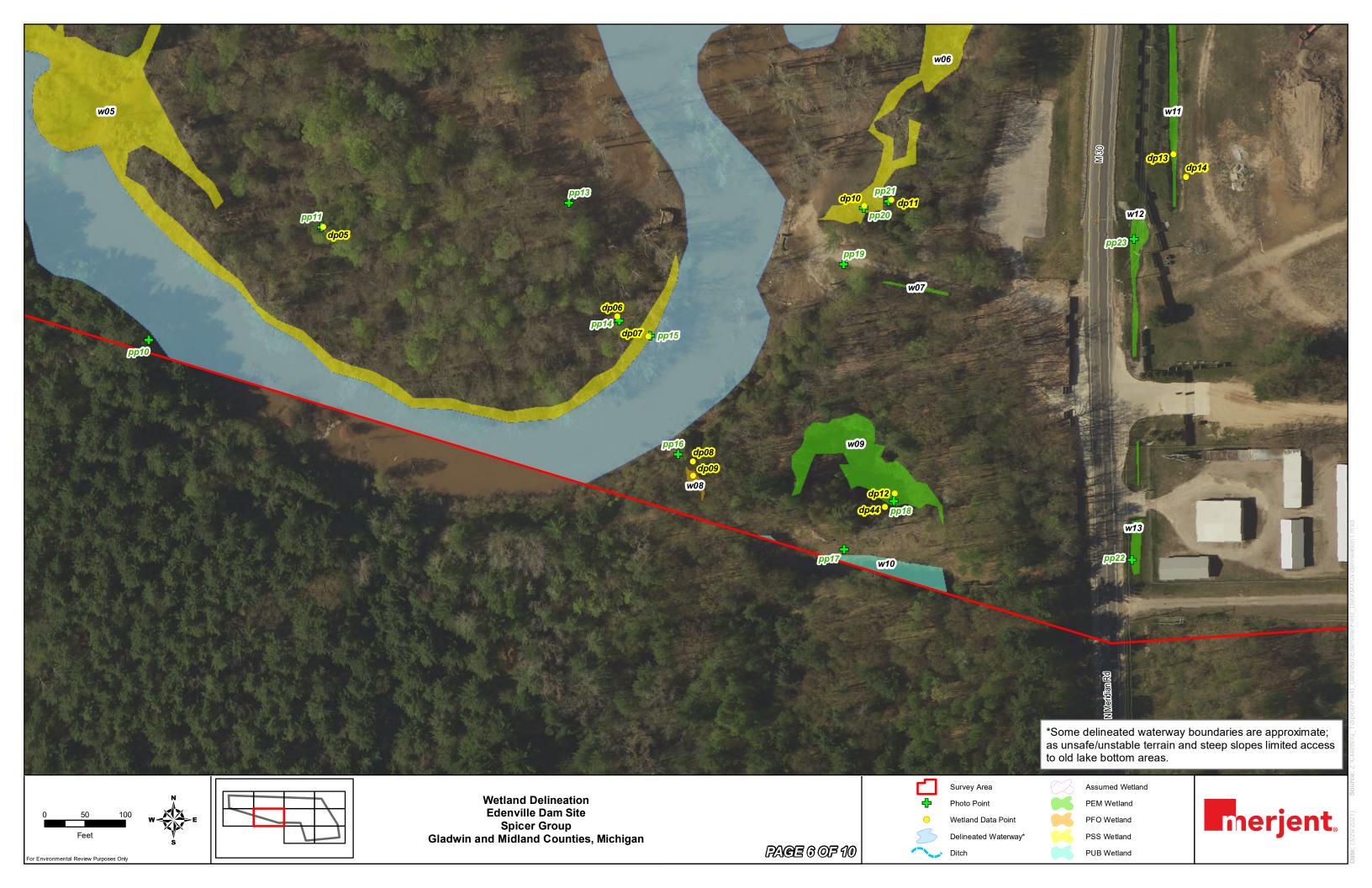


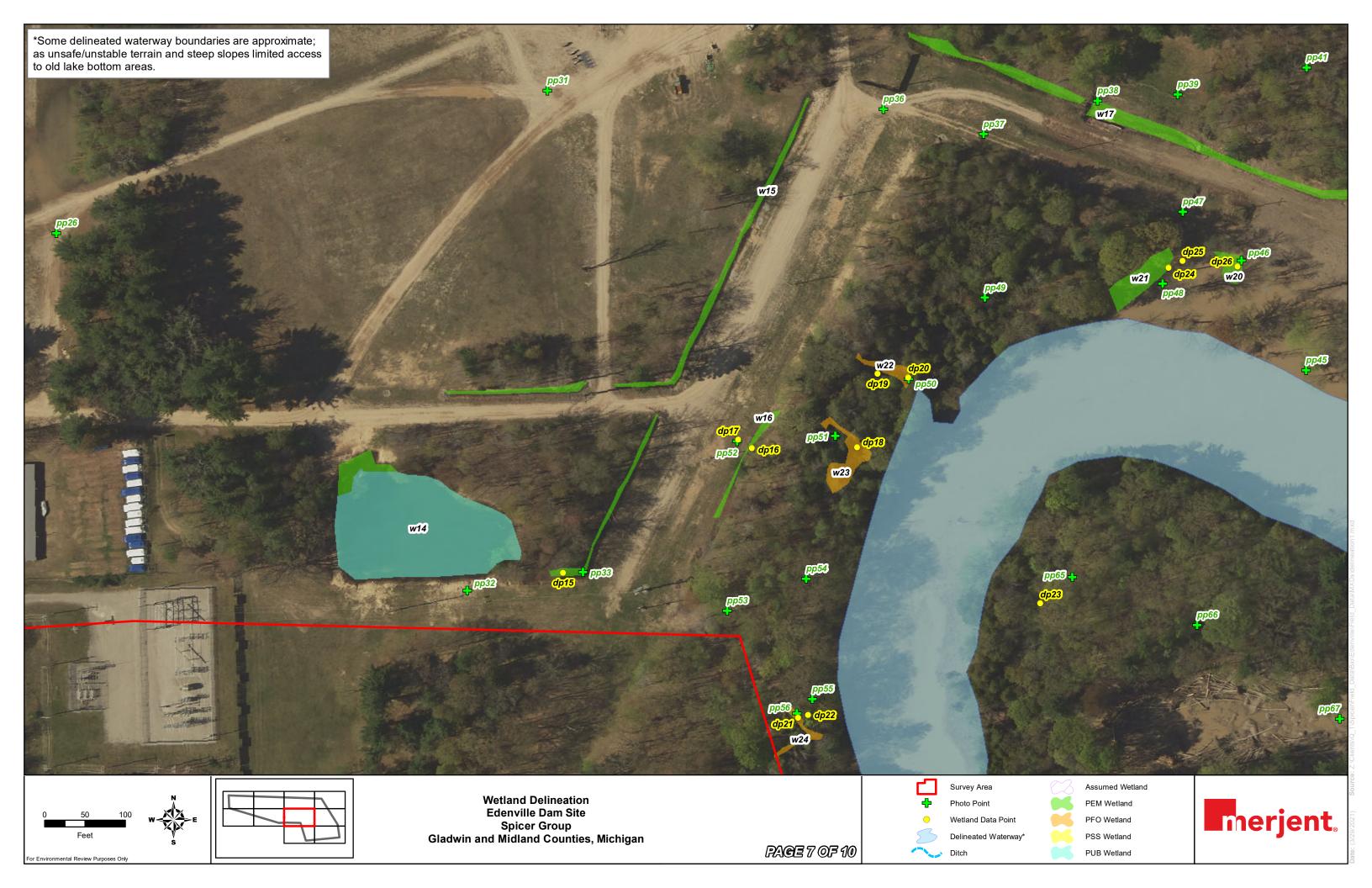


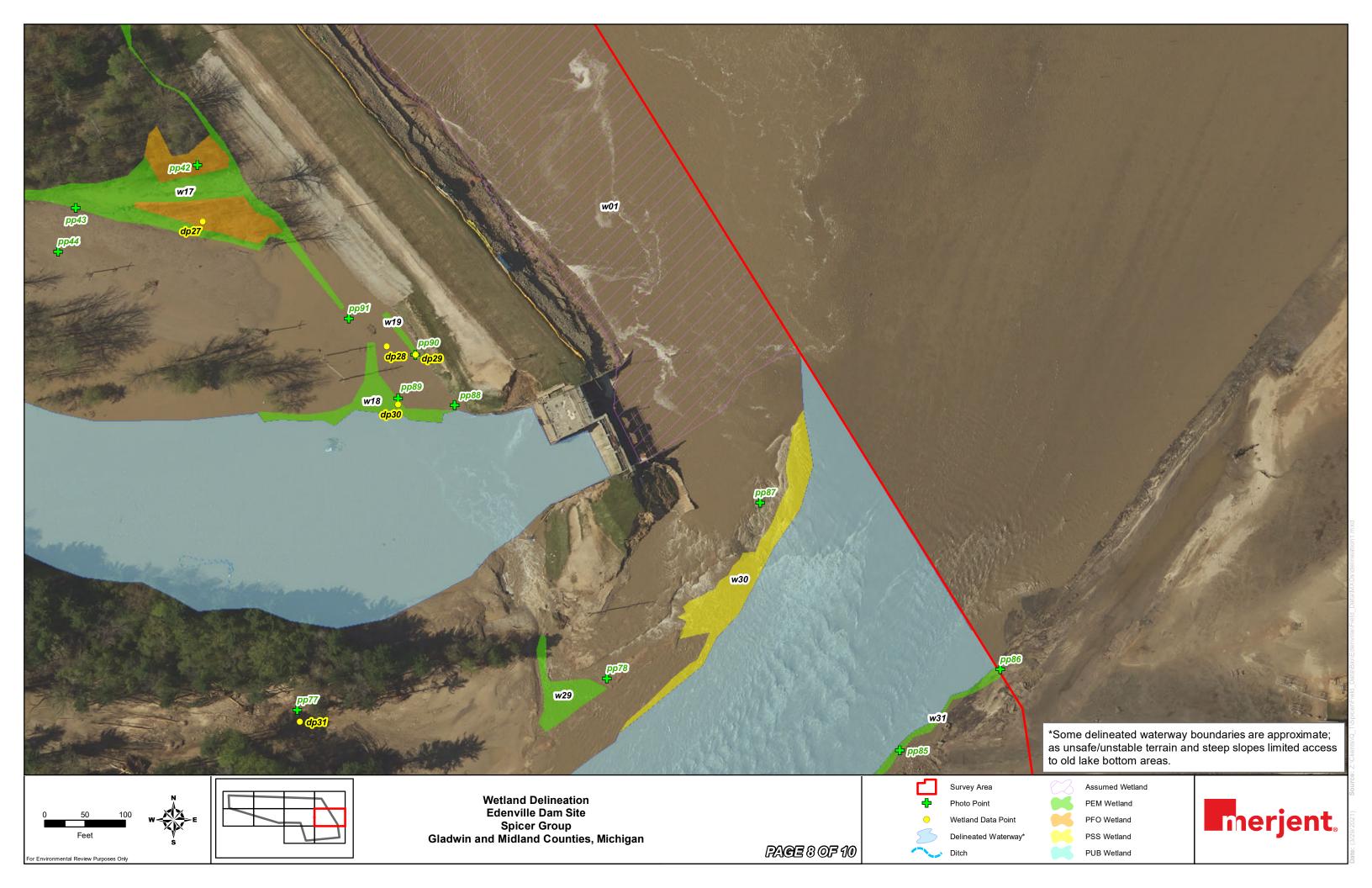


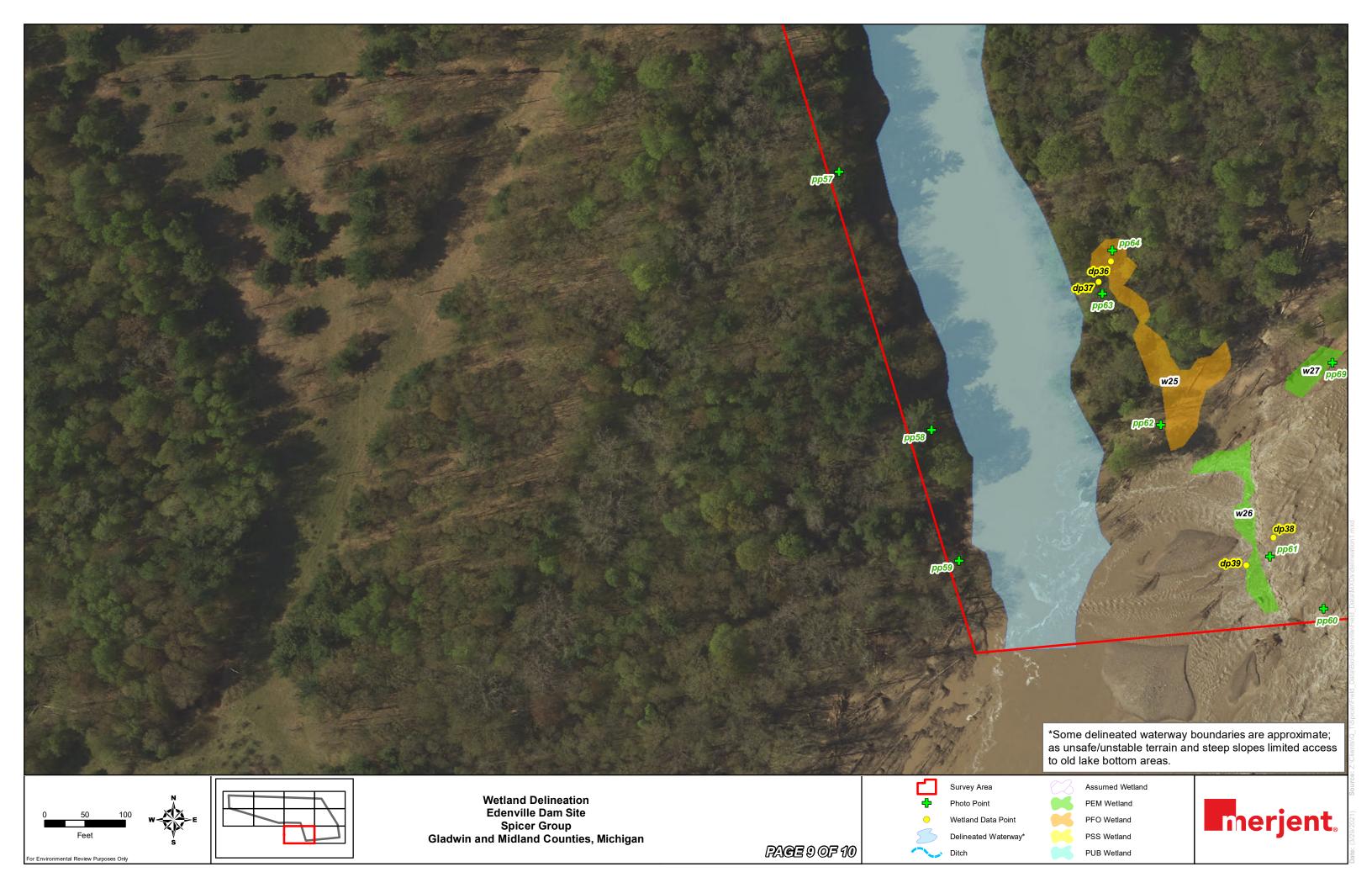


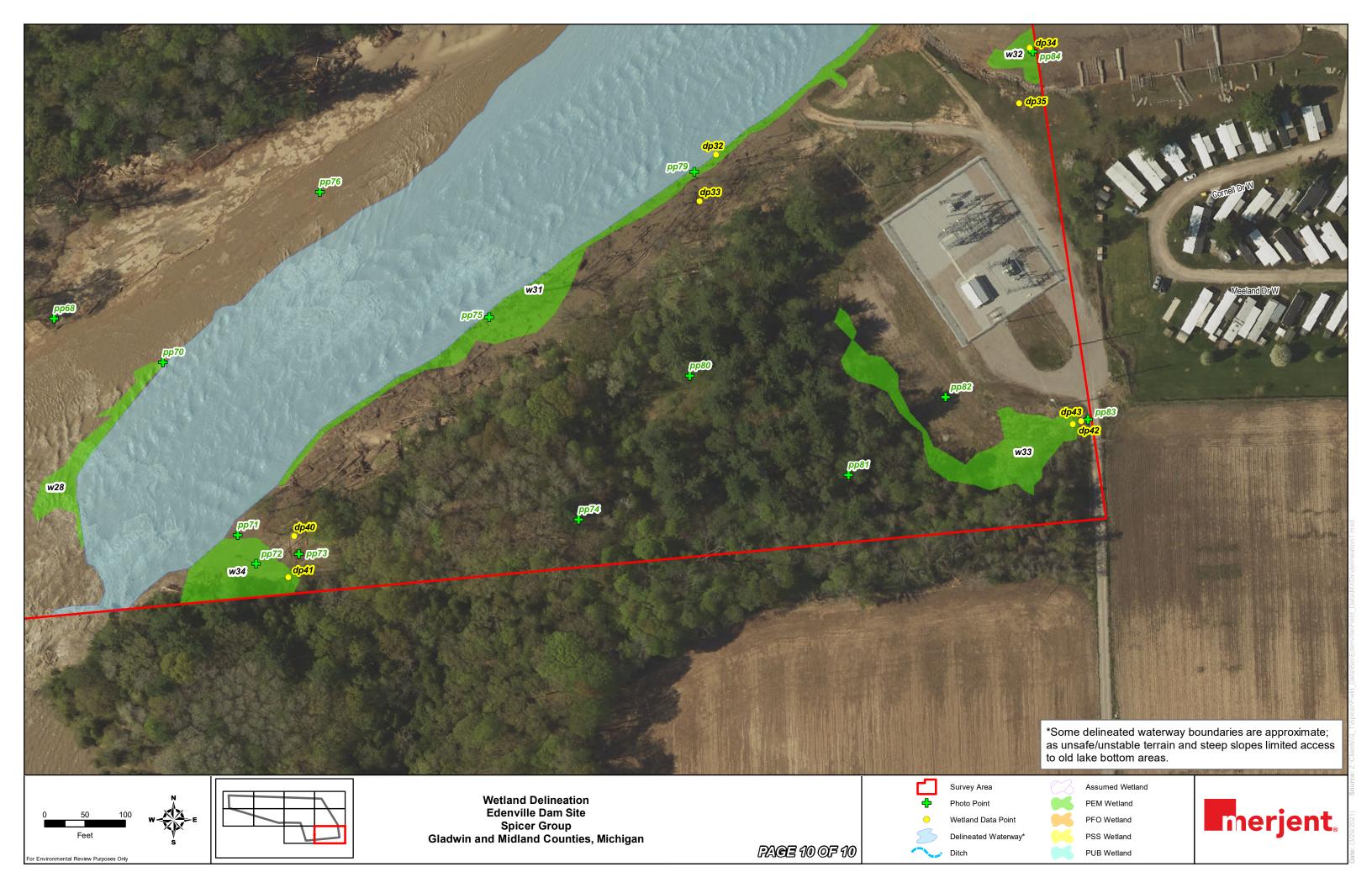












Appendix A Survey Photographs



Photograph pp01 view South



Photograph pp02 view East





Photograph pp02 view North



Photograph pp02 view South





Photograph pp02 view West



Photograph pp03 view North of dp03





Photograph pp04 view Southeast of dp04



Photograph pp05 view East





Photograph pp05 view North



Photograph pp05 view South





Photograph pp05 view West



Photograph pp06 view East





Photograph pp06 view North



Photograph pp07 view Southwest





Photograph pp08 view East



Photograph pp08 view North





Photograph pp08 view South



Photograph pp08 view West





Photograph pp09 view North



Photograph pp10 view West





Photograph pp11 view East of dp05



Photograph pp12 view East





Photograph pp12 view North



Photograph pp12 view South





Photograph pp12 view West



Photograph pp13 view North





Photograph pp14 view North of dp06



Photograph pp15 view East of dp07





Photograph pp16 view Northeast towards dp08



Photograph pp16 view Northwest





Photograph pp16 view South towards dp09



Photograph pp17 view East





Photograph pp17 view North



Photograph pp17 view South





Photograph pp17 view West



Photograph pp18 view North towards dp12





Photograph pp18 view South



Photograph pp18 view West towards dp44





Photograph pp19 view East



Photograph pp19 view North





Photograph pp19 view South



Photograph pp19 view West





Photograph pp20 view Northwest of dp10



Photograph pp21 view East of dp11





Photograph pp22 view North



Photograph pp22 view South





Photograph pp23 view North



Photograph pp23 view South





Photograph pp24 view North



Photograph pp24 view South





Photograph pp25 view East



Photograph pp25 view South





Photograph pp25 view West



Photograph pp26 view Southeast





Photograph pp27 view East



Photograph pp27 view North





Photograph pp27 view South



Photograph pp27 view West





Photograph pp28 view East



Photograph pp28 view North





Photograph pp28 view West



Photograph pp29 view East





Photograph pp29 view North



Photograph pp29 view West





Photograph pp30 view East



Photograph pp30 view West





Photograph pp31 view East



Photograph pp31 view South





Photograph pp32 view East



Photograph pp32 view North





Photograph pp32 view South



Photograph pp32 view West





Photograph pp33 view East



Photograph pp33 view North





Photograph pp33 view West towards dp15



Photograph pp34 view East





Photograph pp34 view North



Photograph pp34 view West





Photograph pp35 view East



Photograph pp35 view North





Photograph pp35 view Southeast



Photograph pp35 view West





Photograph pp36 view South



Photograph pp36 view West





Photograph pp37 view East



Photograph pp37 view North





Photograph pp37 view South



Photograph pp37 view West





Photograph pp38 view East



Photograph pp38 view West





Photograph pp39 view East



Photograph pp39 view North





Photograph pp39 view South



Photograph pp39 view West





Photograph pp40 view East



Photograph pp40 view North





Photograph pp40 view South



Photograph pp40 view West





Photograph pp41 view East



Photograph pp41 view North





Photograph pp41 view South



Photograph pp41 view West





Photograph pp42 view East



Photograph pp42 view North





Photograph pp42 view South towards dp27



Photograph pp42 view West





Photograph pp43 view East



Photograph pp43 view North





Photograph pp43 view South



Photograph pp43 view West





Photograph pp44 view East



Photograph pp44 view South





Photograph pp44 view West



Photograph pp45 view North





Photograph pp45 view Northeast



Photograph pp45 view South





Photograph pp45 view West



Photograph pp46 view East at dp26





Photograph pp46 view South at dp26



Photograph pp46 view West





Photograph pp47 view East



Photograph pp47 view North





Photograph pp47 view South towards dp25



Photograph pp47 view West





Photograph pp48 view Northwest towards dp24



Photograph pp48 view South





Photograph pp48 view Southwest



Photograph pp49 view East





Photograph pp49 view North



Photograph pp49 view South





Photograph pp49 view West



Photograph pp50 view North at dp20





Photograph pp50 view South at dp20



Photograph pp50 view Southwest at dp20





Photograph pp50 view West



Photograph pp51 view East towards dp18





Photograph pp51 view North



Photograph pp51 view South





Photograph pp52 view East towards dp16



Photograph pp52 view North at dp17





Photograph pp52 view Southwest at dp17



Photograph pp53 view North





Photograph pp54 view South



Photograph pp55 view East





Photograph pp55 view North



Photograph pp55 view South towards dp22





Photograph pp55 view West



Photograph pp56 view South at dp21





Photograph pp56 view West at dp21



Photograph pp57 view East





Photograph pp57 view North



Photograph pp57 view South





Photograph pp58 view East



Photograph pp58 view North





Photograph pp58 view South



Photograph pp59 view East





Photograph pp59 view Southeast



Photograph pp60 view East





Photograph pp60 view North



Photograph pp60 view South





Photograph pp60 view West



Photograph pp61 view East





Photograph pp61 view North towards dp38



Photograph pp61 view South





Photograph pp61 view West towards dp39



Photograph pp62 view East





Photograph pp62 view North



Photograph pp62 view South





Photograph pp62 view West



Photograph pp63 view North towards dp37





Photograph pp63 view West



Photograph pp64 view North





Photograph pp64 view South towards dp36



Photograph pp65 view East





Photograph pp65 view North



Photograph pp65 view South towards dp23





Photograph pp65 view West



Photograph pp66 view East





Photograph pp66 view North



Photograph pp66 view South





Photograph pp67 view East



Photograph pp67 view North





Photograph pp67 view South



Photograph pp67 view West





Photograph pp68 view North



Photograph pp69 view Southwest





Photograph pp70 view South



Photograph pp71 view East





Photograph pp71 view North



Photograph pp71 view South





Photograph pp71 view West



Photograph pp72 view South





Photograph pp73 view Northeast



Photograph pp73 view Southwest towards dp41





Photograph pp74 view North



Photograph pp74 view South





Photograph pp74 view West



Photograph pp75 view East





Photograph pp75 view North



Photograph pp75 view South





Photograph pp75 view West



Photograph pp76 view North





Photograph pp76 view Northeast



Photograph pp77 view South towards dp31





Photograph pp77 view West



Photograph pp78 view East





Photograph pp78 view North



Photograph pp78 view South





Photograph pp78 view West



Photograph pp79 view East towards dp32





Photograph pp79 view North



Photograph pp79 view South towards dp33





Photograph pp79 view West



Photograph pp80 view East





Photograph pp80 view North



Photograph pp80 view South





Photograph pp81 view North



Photograph pp81 view West





Photograph pp82 view North



Photograph pp82 view South





Photograph pp82 view Southeast



Photograph pp83 view North





Photograph pp83 view West towards dp42 and dp43



Photograph pp84 view East at dp34





Photograph pp84 view North at dp34



Photograph pp84 view West at dp34





Photograph pp85 view East



Photograph pp85 view South





Photograph pp85 view West



Photograph pp86 view North





Photograph pp86 view Southwest



Photograph pp86 view West





Photograph pp87 view East

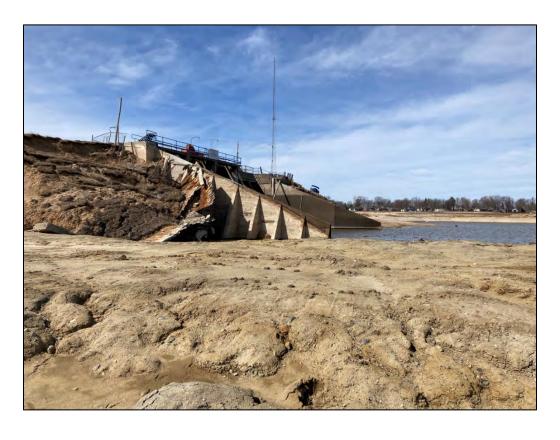


Photograph pp87 view North





Photograph pp87 view South



Photograph pp87 view West





Photograph pp88 view North



Photograph pp88 view South





Photograph pp89 view East



Photograph pp89 view North





Photograph pp89 view South towards dp30



Photograph pp89 view West





Photograph pp90 view Northwest at dp29



Photograph pp91 view Northwest



Appendix B Wetland Delineation Data Forms – Northcentral and Northeast Region

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Region

Project/Site:	Edenville Dam		City/County:	Gladwin Co.		Sampling Date:	3/22/2021
Applicant/Owner:	Four Lakes Task Force		<u> </u>	State	: MI	Sampling Point:	dp01
Investigator(s):	E. Vander Stelt; B. Norris	s	Section, To	wnship, Range:	T17I	N, R01W, Section 35	
Landform (hillslope, te		Slough		ocal relief (concave, cor			
`	-1% Lat:	43.816466	Long:	-84.396193			D83 HARN
Soil Map Unit Name:	Pickford loam				NWI classific		none
	gic conditions on the site ty	voical for this time of year?	Yes X	No (If no, explain	n in Remarks.		110110
	-						
Are Vegetation		, or Hydrologysignificantl		e "Normal Circumstances		Yes X No	' <u> </u>
Are Vegetation		, or Hydrology naturally p		needed, explain any ans			
SUMMARY OF	FINDINGS Attach	site map showing sampli	ing point locations,	transects, importa	int features	s, etc.	
Hydrophytic Vegetati	ion Present?	Yes X No	Is the Sample	d Area			
Hydric Soil Present?		Yes X No	within a Wetla	ınd?	Yes X	No	_
Wetland Hydrology F	Present?	Yes X No	If yes, optional	Wetland Site ID:			
1		here or in a separate report.)					
Antecedent precipita	tion analysis indicates con-	ditions are normal per the WETS	table.				
<u> </u>							
HYDROLOGY							
Wetland Hydrology				Secondary Inc	dicators (minin	num of two required)	
	minimum of one is required	i; check all that apply)			Soil Cracks (E		
X Surface Water	·	X Water-Stained Le	eaves (B9)		e Patterns (B1		
X High Water Tab	ole (A2)	Aquatic Fauna (E	313)	Moss Tr	im Lines (B16)	
X Saturation (A3)		Marl Deposits (B			son Water Ta		
Water Marks (E		Hydrogen Sulfide			Burrows (C8)		
Sediment Depo			pheres on Living Roots (C3	· —		Aerial Imagery (C9)	
Drift Deposits (I		Presence of Red			or Stressed P		
Algal Mat or Cru Iron Deposits (E		Thin Muck Surface	uction in Tilled Soils (C6)		phic Position (Aquitard (D3)	D2)	
	ble on Aerial Imagery (B7)	Other (Explain in			ograpic Relie	F (D4)	
	tated Concave Surface (B8		Nemano,		utral Test (D5		
Field Observations	•	'				,	
Surface Water Prese		No Depth (inches):	: 1"				
Water Table Present							
				- 11 - m - 1 Uniderate du Proce	40 V	V No	
Saturation Present?		No Depth (inches):	: surface We	etland Hydrology Prese	ent? i	es X No	
(includes capillary fri		toring well, aerial photos, previous	s inspections) if available:				
Describe Recorded .	Jala (Sileani gaugo, mom	.Ulling well, actial priolog, provided	s Ilispections, il available.				
D. Lader							
Remarks:							

	Absolute	Dominant	Indicator	
<u>Tree Stratum</u> (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1. Populus deltoides	10	Yes	FAC	Number of Dominant Species That
2. Ulmus americana	10	Yes	FACW	Are OBL, FACW, or FAC: 5 (A)
3.				Total Number of Dominant Species
4.				Across All Strata 5 (B)
5				Percent of Dominant Species That
6				Are OBL, FACW, or FAC:(A/B)
7				
	20	= Total Cove	r	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.))			Total % Cover of: Multiply by:
1. Rhamnus cathartica	20	Yes	FAC	OBL species 0 x 1 = 0
2. Carpinus caroliniana	5	No	FAC	FACW species 25 x 2 = 50
3. Cornus alba	15	Yes	FACW	FAC species 40 x 3 = 120
4				FACU species0 x 4 =0
5				UPL species0 x 5 =0
6				Column Totals:65 (A)170 (B)
7				Prevalence Index = B/A = 2.62
	40	= Total Cove	r	
Herb Stratum (Plot size: 5 ft.)				
Symphyotrichum lateriflorum	5	Yes	<u>FAC</u>	Hydrophytic Vegetation Indicators:
2				Rapid Test for Hydrophytic Vegetation
3				X Dominance Test is >50%
4				X Prevalence Index is ≤ 3.0¹
5.				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6.				
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10 11.				
12				Definitions of Vegetation Strata:
12				_
44				Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of
15				height.
16				Sapling/shrub - Woody plants less than 3 inches
47				DBH and greater than 3.28 ft (1 m) tall.
18				
19				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
20				of size, and woody plants less than 3.20 it tall.
	5	= Total Cove	r	Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.)				height.
1				
2.				Hydrophytic Vegetation Present ?
3.				
4.				Yes <u>x</u> No
		= Total Cove	r	
Remarks: (Include photo numbers here or on a separate sheet.)				L

SOIL Sampling Point: dp01

1-8" 10YR	3/2 100 5/2 98	Redox Featu Color (moist) % 10YR 4/6 2	Type¹ Loc	Texture Muck Sandy Clay	Remarks
Type: C=Concentration, D= Hydric Soil Indicators: Histosol (A1) X Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4 Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (A1) Sandy Mucky Mineral Sandy Gleyed Matrix	5/2 98				
Type: C=Concentration, Dailydric Soil Indicators: Histosol (A1) X Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4 Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (A1) Sandy Mucky Mineral Sandy Gleyed Matrix				Sandy Clay	
Type: C=Concentration, Dailydric Soil Indicators: Histosol (A1) X Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4 Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (A1) Sandy Mucky Mineral Sandy Gleyed Matrix				Januy Clay	
Hydric Soil Indicators: Histosol (A1) X Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4 Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (AS) Sandy Mucky Mineral Sandy Gleyed Matrix	D=Depletion, RM=Re	educed Matrix, MS=Masked Sand G	roine 21 agetion; DI		
Hydric Soil Indicators: Histosol (A1) X Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4 Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (AS) Sandy Mucky Mineral Sandy Gleyed Matrix	D=Depletion, RM=Re	educed Matrix, MS=Masked Sand G	roine 21 agetion; DI		
Hydric Soil Indicators: Histosol (A1) X Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4 Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (AS) Sandy Mucky Mineral Sandy Gleyed Matrix	D=Depletion, RM=Re	educed Matrix, MS=Masked Sand G	roine 21 postions DI		
Hydric Soil Indicators: Histosol (A1) X Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4 Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (AS) Sandy Mucky Mineral Sandy Gleyed Matrix	D=Depletion, RM=R€	educed Matrix, MS=Masked Sand G	roine 21 agetion: DI		
Hydric Soil Indicators: Histosol (A1) X Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4 Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (AS) Sandy Mucky Mineral Sandy Gleyed Matrix	D=Depletion, RM=Re	educed Matrix, MS=Masked Sand G	roine 21 agetion: DI		
Hydric Soil Indicators: Histosol (A1) X Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4 Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (AS) Sandy Mucky Mineral Sandy Gleyed Matrix	D=Depletion, RM=Re	educed Matrix, MS=Masked Sand G	roine 21 agetion; DI		
Hydric Soil Indicators: Histosol (A1) X Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4 Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (AS) Sandy Mucky Mineral Sandy Gleyed Matrix	D=Depletion, RM=Re	educed Matrix, MS=Masked Sand G	roine 21 agetion DI		
Hydric Soil Indicators: Histosol (A1) X Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4 Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (AS) Sandy Mucky Mineral Sandy Gleyed Matrix	D=Depletion, RM=Re	educed Matrix, MS=Masked Sand G	roine 21 agetion: DI		
Hydric Soil Indicators: Histosol (A1) X Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4 Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (AS) Sandy Mucky Mineral Sandy Gleyed Matrix	D=Depletion, RM=Re	educed Matrix, MS=Masked Sand G	roine 21 postion; DI		
Histosol (A1) X Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4 Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (AS) Sandy Mucky Mineral Sandy Gleyed Matrix	D=Depletion, RM=Re	educed Matrix, MS=Masked Sand G	roine 21 agetion; DI		
Hydric Soil Indicators: Histosol (A1) X Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4 Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (AS) Sandy Mucky Mineral Sandy Gleyed Matrix	D=Depletion, RM=Re	educed Matrix, MS=Masked Sand G	roine 21 costion: DI		
Hydric Soil Indicators: Histosol (A1) X Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4 Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (AS) Sandy Mucky Mineral Sandy Gleyed Matrix	D=Depletion, RM=Re	educed Matrix, MS=Masked Sand G	roine ² Location: DI		
Hydric Soil Indicators: Histosol (A1) X Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4 Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (AS) Sandy Mucky Mineral Sandy Gleyed Matrix	D=Depletion, RM=Re	educed Matrix, MS=Masked Sand G	roing ² l coation: DI		
Hydric Soil Indicators: Histosol (A1) X Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4 Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (AS) Sandy Mucky Mineral Sandy Gleyed Matrix	D=Depletion, RM=R6	educed Matrix, MS=Masked Sand G			
Histosol (A1) X Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4 Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (A Sandy Mucky Mineral Sandy Gleyed Matrix			iairis. Location. PL		ematic Hydric Soils ³ :
X Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4 Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (A Sandy Mucky Mineral Sandy Gleyed Matrix		Stripped Matrix (S6)		2 cm Muck (A	-
Hydrogen Sulfide (A4 Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (A Sandy Mucky Mineral Sandy Gleyed Matrix		Loamy Mucky Mineral (F1)		Coast Prairie	
Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (A Sandy Mucky Mineral Sandy Gleyed Matrix		Loamy Gleyed Matrix (F2)			Peat or Peat (S3)
Depleted Below Dark Thick Dark Surface (A Sandy Mucky Mineral Sandy Gleyed Matrix	Hydrogen Sulfide (A4) X Depleted Matrix (F3)				(S7)
Thick Dark Surface (A Sandy Mucky Mineral Sandy Gleyed Matrix		Redox Dark Surface (F6) Depleted Dark Surface (F7)		Polyvalue Bel Thin Dark Sur	low Surface (S8)
Sandy Mucky Mineral Sandy Gleyed Matrix		Redox Depressions (F8)			ese Masses (F12)
		(,		Red Parent M	
	(S4)			Very Shallow	Dark Surface (TF12)
Sandy Redox (S5)				Other (Explain	n in Remarks)
BIndicators of hydrophytic v	vegetation and wetl	and hydrology must be present, unle	ess disturbed or prol	olematic.	
Restrictive Layer (if obser	rved):				
• •	vouj.				
Type: Water					
Depth (inches):	8"		Hydri	c Soil Present?	Yes X No
Remarks:					

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Region

Project/Site:	Edenville Dam		City/County:	Gladwin Co.	Sampling Date:	3/22/2021
Applicant/Owner:	Four Lakes Task Force			State:	MI Sampling Point:	dp02
Investigator(s):	E. Vander Stelt; B. Norri	is	Section, To	ownship, Range:	T17N, R01W, Section 35	
Landform (hillslope, to	errace, etc.):	Footslope		Local relief (concave, conve	ex, none): convex	
Slope (%):	2-3% Lat:	43.816454	Long:	-84.396115	Datum: NA	D83 HARN
Soil Map Unit Name:	Pickford loam			N	IWI classification:	none
Are climatic / hydrolog	gic conditions on the site ty	pical for this time of year?	Yes X	No (If no, explain in	n Remarks.)	
Are Vegetation	, Soil,	, or Hydrologysignificantly	y disturbed? A	re "Normal Circumstances"	present? Yes X No	
Are Vegetation	, Soil,	, or Hydrologynaturally pr	roblematic? (If	needed, explain any answe	rs in Remarks.)	
SUMMARY OF	FINDINGS Attach	site map showing sampli	ing point locations.	transects, important	t features, etc.	
			1		•	
Hydrophytic Vegeta Hydric Soil Present?		Yes No X Yes No X	Is the Sample within a Wetl		Voc. No. V	
Wetland Hydrology		Yes No X	_	I Wetland Site ID:	Yes NoX	•
		here or in a separate report.)				
		nditions are normal per the WETS t	table.			
	•	·				
HYDROLOGY						
_						
Wetland Hydrology		L. L L H. Ohak amak A			ators (minimum of two required)	_
Primary Indicators (Surface Water	minimum of one is required	d; check all that apply) Water-Stained Le			oil Cracks (B6) Patterns (B10)	
High Water Ta		Aquatic Fauna (B			Lines (B16)	
Saturation (A3)		Marl Deposits (B1			n Water Table (C2)	
Water Marks (Hydrogen Sulfide			urrows (C8)	
Sediment Depo			pheres on Living Roots (C		Visible on Aerial Imagery (C9)	
Drift Deposits		Presence of Redu	- ·		Stressed Plants (D1)	
Algal Mat or Ci			uction in Tilled Soils (C6)		ic Position (D2)	
Iron Deposits (, ,	Thin Muck Surfac			quitard (D3)	
	ible on Aerial Imagery (B7)				grapic Relief (D4)	
	etated Concave Surface (B8		,		ral Test (D5)	
Field Observations	 S:					
Surface Water Pres	sent? Yes	No X Depth (inches):	: _			
Water Table Preser	nt? Yes	No X Depth (inches):	:			
Saturation Present?	Yes	No X Depth (inches):	w	etland Hydrology Present	? Yes No	(
(includes capillary fr	ringe)					
Describe Recorded	Data (stream gauge, monif	toring well, aerial photos, previous	inspections), if available			
No indicators of hyd	rology observed.					
Remarks:						

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1. Betula papyrifera	10	No	FACU	Number of Dominant Species That
2. Populus tremuloides	40	Yes	FAC	Are OBL, FACW, or FAC: 2 (A)
3. Quercus rubra	5	No	FACU	Total Number of Dominant Species
4. Pinus strobus	20	Yes	FACU	Across All Strata4(B)
5.				Percent of Dominant Species That
6.				Are OBL, FACW, or FAC:
7.				
	75	= Total Cove	r	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
Elaeagnus angustifolia	20	Yes	FACU	OBL species 0 x 1 = 0
2. Rhamnus cathartica	20	Yes	FAC	FACW species 0 x 2 = 0
3				FAC species 60 x 3 = 180
4				FACU species 55 x 4 = 220
5				UPL species 0 x 5 = 0
6				Column Totals: 115 (A) 400 (B)
7				Prevalence Index = B/A = 3.48
	40	= Total Cove	r	
Herb Stratum (Plot size: 5 ft.)				
1				Hydrophytic Vegetation Indicators:
2				Rapid Test for Hydrophytic Vegetation
3				Dominance Test is >50%
4				Prevalence Index is ≤ 3.0 ¹
5				Morphological Adaptations ¹ (Provide supporting
6				data in Remarks or on a separate sheet)
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10				
11				
12				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in
14				diameter at breast height (DBH), regardless of height.
15				
16				Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.
17				5
18				Herb - All herbaceous (non-woody) plants, regardless
19				of size, and woody plants less than 3.28 ft tall.
20		= Total Cove		Manda di Caranta di Ca
Woody Vine Stratum (Plot size: 30 ft.)		= Total Cove	•	Woody vines - All woody vines greater than 3.28 ft in height.
1				
2				Hydrophytic Vegetation Present ?
2				Trydrophytio regetation resent .
3				Yes No X
<u> </u>		= Total Cove		165 165_ <u>X</u>
December (the believe the record of the control of		- 10tai 00VE	•	
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL Sampling Point: dp02

Profile Description: (Describe to the depth needed to document the indicator or confirm Depth Matrix Redox Features									
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture	Re	emarks
0-3"	10YR 3/1	100					Loamy Sand		
3-18"	10YR 4/4	100					Sand		
<u> </u>	1011(4/4	100					Sanu	<u>,</u>	
					· <u> </u>				
	ncentration, D=Depletio	n, RM=Red	uced Matrix, MS=Mask	ked Sand G	rains. ² Loca	ation: PL=Po			3
Hydric Soil Ir			0	20)			Indicators for Prob	_	Soils":
Histosol	i (A1) pipedon (A2)	_	Stripped Matrix (S Loamy Mucky Mi				2 cm Muck (A10) e Redox (A16)	
	istic (A3)	_	Loamy Gleyed M					Peat or Peat (S	3)
Hydroge	en Sulfide (A4)	_	Depleted Matrix ((F3)			Dark Surface		
	d Layers (A5)		Redox Dark Surfa					elow Surface (S8	3)
	d Below Dark Surface (ark Surface (A12)	(A11)	Depleted Dark Su Redox Depression				Thin Dark So	urface (S9) nese Masses (F1	2)
	Mucky Mineral (S1)	_	Redox Depressio)				Material (F21)	
Sandy 0	Gleyed Matrix (S4)							v Dark Surface (ΓF12)
Sandy F	Redox (S5)						Other (Expla	in in Remarks)	
3Indicators of	hydrophytic vegetation	and wetlar	ıd hydrology must be p	resent, unl	ess disturbed	d or problem	atic.		
Restrictive L	ayer (if observed):								
Typo:									
Depth (i	nches):					Hydric So	il Present?	Yes	No X
Remarks:									

Project/Site: Edenville Dam	City/County: Gladwin Sampling Date: 22 Mar 2021					
Applicant/Owner: Four Lakes Task Force	State: MI Sampling Point: dp03					
Investigator(s): K. Leister	Section,	Township, Range: Sec. 35	 , T17N R1W			
Landform (hillside, terrace, etc.): Shoulder	Local relief (concave, co		Slope %: <u>3-6</u>			
Subregion (LRR or MLRA): LRR L, MLRA 98		ng: -84.3955255	Datum: WGS 84			
Soil Map Unit Name: Grattan sand, loamy substrat		NWI classification:				
Are climatic / hydrologic conditions on the site typica						
, ,			explain in Remarks.)			
Are Vegetation, Soil, or Hydrology _		Iormal Circumstances" pres				
Are Vegetation, Soil, or Hydrology _	naturally problematic? (If nee	eded, explain any answers ir	n Remarks.)			
SUMMARY OF FINDINGS – Attach site	map showing sampling point loo	ations, transects, im	portant features, etc.			
Hydrophytic Vogotation Procent?	No. Y Is the Sample	d Aroa	_			
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes	No X Is the Sample within a Wetla		No X			
Wetland Hydrology Present? Yes		Wetland Site ID:	<u> </u>			
Remarks: (Explain alternative procedures here or						
	, ,					
HYDROLOGY						
Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)			
Primary Indicators (minimum of one is required; ch	eck all that apply)	Surface Soil Crack				
	Water-Stained Leaves (B9)	Drainage Patterns	• •			
1 	Aquatic Fauna (B13)	Moss Trim Lines (E				
<u> </u>	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 (C	3) Saturation Visible of	on Aerial Imagery (C9)			
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stresse	ed Plants (D1)			
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Positi	on (D2)			
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (I	D3)			
1 	Other (Explain in Remarks)	Microtopographic F	, ,			
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral Test ((D5)			
Field Observations:						
Surface Water Present? Yes No	X Depth (inches):					
	X Depth (inches):					
	X Depth (inches): We	tland Hydrology Present?	Yes No _X_			
(includes capillary fringe)		if a validable.				
Describe Recorded Data (stream gauge, monitorin	g well, aerial photos, previous inspections)	ir avaliable:				
Remarks:						
Tromano.						

VEGETATION – Use scientific names of plants. Sampling Point: COab Absolute Dominant Indicator Tree Stratum (Plot size: 30') **Dominance Test worksheet:** % Cover Species? Status 50 Yes FAC 1. Acer rubrum **Number of Dominant Species** 2. Populus deltoides 15 Yes FAC That Are OBL, FACW, or FAC: 2 (A) 3. Fagus grandifolia 10 No **FACU Total Number of Dominant** 4. Species Across All Strata: (B) 5. Percent of Dominant Species That Are OBL, FACW, or FAC: 6. 40.0% (A/B Prevalence Index worksheet: 7. 75 =Total Cover Total % Cover of: Multiply by: Sapling/Shrub Stratum (Plot size: 15' 0 **OBL** species x 1 =Hamamelis virginiana FACU **FACW** species 0 x 2 = 0 1. Yes 2. Fagus grandifolia 10 Yes **FACU** FAC species 70 x 3 = 210 3. Carpinus caroliniana 5 No FAC **FACU** species 50 x 4 =200 4. **UPL** species 5 25 x 5 = 5. Column Totals: 125 (A) 435 (B 3.48 6. Prevalence Index = B/A = **Hydrophytic Vegetation Indicators:** 45 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% Herb Stratum (Plot size: Carex pensylvanica UPL 3 - Prevalence Index is ≤3.01 4 - Morphological Adaptations¹ (Provide supportin 2. data in Remarks or on a separate sheet) 3. Problematic Hydrophytic Vegetation¹ (Explain) 4. 5. ¹Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic. **Definitions of Vegetation Strata:** 7. 8. Tree - Woody plants 3 in. (7.6 cm) or more in diameter 9. 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. 11. Herb - All herbaceous (non-woody) plants, regardless 5 =Total Cover of size, and woody plants less than 3.28 ft tall. (Plot size: Woody Vine Stratum 30') Woody vines - All woody vines greater than 3.28 ft ir height. 2. Hydrophytic 3. Vegetation Present? Yes No X

=Total Cover

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

SOIL Sampling Point: COab Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) Loc² (inches) % Color (moist) % Type¹ Texture Remarks 0-6 10YR 4/1 100 Sandy 6-10 10YR 5/2 100 Sandy 10-24 5YR 4/6 100 Sandy ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149B) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Very Shallow Dark Surface (F22) Sandy Redox (S5) Redox Depressions (F8) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): **Hydric Soil Present?** Yes No Remarks: This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Project/Site: Edenville Dam	City/County: Gladwin		Sampling Date: 22 Mar 2021
Applicant/Owner: Four Lakes Task Force		State: MI	Sampling Point:dp04_
Investigator(s): K. Leister	Section, Town	ship, Range: Sec. 35,	T17N R1W
Landform (hillside, terrace, etc.): Toe of slope	Local relief (concave, convex,	none): Concave	Slope %: 0-2
Subregion (LRR or MLRA): LRR L, MLRA 98		84.3952844	Datum: WGS 84
Soil Map Unit Name: Grattan sand, loamy subst	ratum, 0 to 6 percent slopes	NWI classification:	None
Are climatic / hydrologic conditions on the site typ		No (If no, e	explain in Remarks.)
Are Vegetation , Soil , or Hydrology		I Circumstances" prese	
Are Vegetation, Soil, or Hydrology		explain any answers in	
	e map showing sampling point locatio	•	,
Hydrophytic Vegetation Present? Ye	s X No Is the Sampled Area	1	
Hydric Soil Present? Ye	s X No within a Wetland?	Yes X	No
Wetland Hydrology Present? Ye	s X No If yes, optional Wetla	nd Site ID:	
HYDROLOGY			
Wetland Hydrology Indicators:	-		ninimum of two required)
Primary Indicators (minimum of one is required;		Surface Soil Cracks	` ,
Surface Water (A1) X High Water Table (A2)	_ Water-Stained Leaves (B9) Aquatic Fauna (B13)	Drainage Patterns (Moss Trim Lines (B	
X Saturation (A3)	Marl Deposits (B15)	Dry-Season Water	•
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C	
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	Saturation Visible o	n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed	d Plants (D1)
Algal Mat or Crust (B4)	-	X Geomorphic Position	
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D	
Inundation Visible on Aerial Imagery (B7)	-	X Microtopographic R	
Sparsely Vegetated Concave Surface (B8) Field Observations:		X FAC-Neutral Test (I	ມວ)
Surface Water Present? Yes N Water Table Present? Yes X Saturation Present? Yes X (includes capillary fringe)		Hydrology Present?	Yes <u>X</u> No
Remarks:			
US Army Corps of Engineers		Northcentral and No	ortheast Region – Version 2.0

VEGETATION – Use scientific names of plants. Sampling Point: dp04 Absolute Dominant Indicator **Dominance Test worksheet:** Tree Stratum (Plot size: 30') % Cover Species? Status 50 Yes FAC 1. Acer rubrum **Number of Dominant Species** 2. Quercus bicolor 10 No **FACW** That Are OBL, FACW, or FAC: (A) 3. Populus deltoides 10 No FAC **Total Number of Dominant** 4. Species Across All Strata: (B) 5. Percent of Dominant Species That Are OBL, FACW, or FAC: 6. 100.0% (A/B Prevalence Index worksheet: 7. Total % Cover of: 70 =Total Cover Multiply by: Sapling/Shrub Stratum (Plot size: 15' 0 OBL species x 1 = 0 Carpinus caroliniana FAC **FACW** species 15 30 1. Yes x 2 = 2. Acer rubrum 8 Yes FAC FAC species 91 x 3 = 273 3. Carya cordiformis 5 No FAC **FACU** species 5 x 4 = 20 5 **FACW** 0 0 4. Ulmus americana No **UPL** species x 5 = 5 5. Hamamelis virginiana No **FACU** Column Totals: 111 (A) 323 (B 6. 2.91 Prevalence Index = B/A = **Hydrophytic Vegetation Indicators:** 7. 31 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation Herb Stratum (Plot size: X 2 - Dominance Test is >50% Athyrium angustum FAC X 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supportin 2. data in Remarks or on a separate sheet) 3. Problematic Hydrophytic Vegetation¹ (Explain) 4. 5. ¹Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic. **Definitions of Vegetation Strata:** 7. 8. Tree - Woody plants 3 in. (7.6 cm) or more in diameter 9. 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. 11. Herb - All herbaceous (non-woody) plants, regardless

10 =Total Cover

=Total Cover

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

30')

Woody Vine Stratum (Plot size:

2.

3.

of size, and woody plants less than 3.28 ft tall.

Yes X

height.

Hydrophytic

Vegetation Present?

Woody vines - All woody vines greater than 3.28 ft ir

No ___

SOIL Sampling Point: dp04 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) Loc² (inches) % Color (moist) % Type¹ Texture Remarks 0-5 10YR 2/1 100 Mucky Sand 5-20 10YR 5/3 80 Sandy 10YR 4/2 20 20-24 10YR 4/3 75 5YR 3/4 Sandy Distinct redox concentrations ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149B) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) X Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Very Shallow Dark Surface (F22) Redox Depressions (F8) X Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) X Dark Surface (S7) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): **Hydric Soil Present?** Yes Χ No Remarks: This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Project/Site: Edenville Dam	City/County: Gladwi	n	Sampling Date: 22 Mar 2021
Applicant/Owner: Four Lakes Task Force		State: MI	Sampling Point:dp05_
Investigator(s): K. Leister	Section, To	wnship, Range: Sec. 35,	, T17N R1W
Landform (hillside, terrace, etc.): Flat	Local relief (concave, conve	x, none): Convex	Slope %: <u>0-2</u>
Subregion (LRR or MLRA): LRR L, MLRA 98		-84.390217	Datum: WGS 84
Soil Map Unit Name: Ceresco loam		NWI classification:	None
Are climatic / hydrologic conditions on the site ty	pical for this time of year? Yes X	No (If no, e	explain in Remarks.)
Are Vegetation , Soil , or Hydrolog		nal Circumstances" pres	
Are Vegetation, Soil, or Hydrolog		d, explain any answers in	
	te map showing sampling point locat		
Hydrophytic Vegetation Present? Y	es No X Is the Sampled A	rea	
	es No X within a Wetland		No X
Wetland Hydrology Present? Y	es No X If yes, optional We	tland Site ID:	
HADBOLOGA			
HYDROLOGY			
Wetland Hydrology Indicators:	shoot all that sook A	•	minimum of two required)
Primary Indicators (minimum of one is required	., .,	Surface Soil Crack	, ,
Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9) Aquatic Fauna (B13)	Drainage Patterns Moss Trim Lines (E	
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)		on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stresse	d Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position	on (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard ([
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic F	
? Sparsely Vegetated Concave Surface (B8)		FAC-Neutral Test ((D5)
Field Observations: Surface Water Present? Yes	No X Depth (inches):		
	No X Depth (inches):		
Saturation Present? Yes		d Hydrology Present?	Yes No X
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitor	oring well, aerial photos, previous inspections), if a	available:	
Remarks:			
Remarks.			
US Army Corps of Engineers		Northcentral and N	ortheast Region – Version 2.0

VEGETATION – Use scientific names of plants. Sampling Point: dp05 Absolute Dominant Indicator Tree Stratum (Plot size: 30') **Dominance Test worksheet:** % Cover Species? Status 60 Yes **FACU** 1. Acer saccharum **Number of Dominant Species** 5 2. Celtis occidentalis No FAC That Are OBL, FACW, or FAC: (A) 3. **Total Number of Dominant** 4. Species Across All Strata: (B) 5. Percent of Dominant Species That Are OBL, FACW, or FAC: 6. 50.0% (A/B Prevalence Index worksheet: 7. 65 =Total Cover Total % Cover of: Multiply by: Sapling/Shrub Stratum (Plot size: 15' 0 **OBL** species x 1 =Rhamnus cathartica FAC **FACW** species 0 x 2 = 0 Yes 2. FAC species 97 x 3 = 291 3. **FACU** species 60 x 4 = 240 4. **UPL** species 0 0 x 5 = 157 5. Column Totals: (A) 531 (B 3.38 6. Prevalence Index = B/A = **Hydrophytic Vegetation Indicators:** 90 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% Herb Stratum (Plot size: 5') Carex blanda FAC 3 - Prevalence Index is ≤3.01 4 - Morphological Adaptations¹ (Provide supportin 2. data in Remarks or on a separate sheet) 3. Problematic Hydrophytic Vegetation¹ (Explain) 4. 5. ¹Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic. **Definitions of Vegetation Strata:** 7. 8. Tree - Woody plants 3 in. (7.6 cm) or more in diameter 9. 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. 11. Herb - All herbaceous (non-woody) plants, regardless 2 =Total Cover of size, and woody plants less than 3.28 ft tall. (Plot size: Woody Vine Stratum 30') Woody vines - All woody vines greater than 3.28 ft ir height. 2. Hydrophytic 3. Vegetation Present? Yes No X =Total Cover Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: dp05 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) Loc² (inches) % Color (moist) % Type¹ Texture Remarks 0-2 10YR 4/2 100 Sandy 2-5 10YR 2/2 Loamy/Clayey 100 5-24 10YR 3/2 Loamy/Clayey 100 ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149B) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Very Shallow Dark Surface (F22) Sandy Redox (S5) Redox Depressions (F8) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): **Hydric Soil Present?** Yes No Remarks: This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Project/Site: Edenville Dam	Project/Site: Edenville Dam City/County: Gladwin Sampling Date: 22 Mar 2021				
Applicant/Owner: Four Lakes Task Force		State: MI	Sampling Point:dp06_		
Investigator(s): K. Leister	Section, To	wnship, Range: Sec. 35,	, T17N R1W		
Landform (hillside, terrace, etc.): Floodplain L	evee Local relief (concave, conve	x, none): Convex	Slope %: <u>0-2</u>		
Subregion (LRR or MLRA): LRR L, MLRA 98	<u></u>	-84.388853	Datum: WGS 84		
Soil Map Unit Name: Ceresco loam		NWI classification:	None		
Are climatic / hydrologic conditions on the site ty	pical for this time of year? Yes X	No (If no,	explain in Remarks.)		
Are Vegetation , Soil , or Hydrolo		nal Circumstances" pres			
Are Vegetation, Soil, or Hydrolo		d, explain any answers ir			
	te map showing sampling point locat				
Hydrophytic Vegetation Present?	es No X Is the Sampled A	rea	_		
	es No X within a Wetland		No X		
Wetland Hydrology Present?	es No X If yes, optional We	tland Site ID:			
HADBOLOGA					
HYDROLOGY					
Wetland Hydrology Indicators:		•	minimum of two required)		
Primary Indicators (minimum of one is required		Surface Soil Crack	` ,		
Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9) Aquatic Fauna (B13)	Drainage Patterns Moss Trim Lines (E			
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water			
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)		on Aerial Imagery (C9)		
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stresse	d Plants (D1)		
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position	on (D2)		
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (I			
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic F			
? Sparsely Vegetated Concave Surface (B8)		FAC-Neutral Test ((D5)		
Field Observations: Surface Water Present? Yes	No X Depth (inches):				
	No X Depth (inches):				
Saturation Present? Yes		d Hydrology Present?	Yes No X		
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monit	oring well, aerial photos, previous inspections), if a	available:			
Remarks:					
Remarks.					
US Army Corps of Engineers		Northcentral and N	ortheast Region – Version 2.0		

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size:30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Acer saccharum	30	Yes	FACU	Number of Dominant Species
2. Tilia americana	25	Yes	FACU	That Are OBL, FACW, or FAC: 2 (A)
3. Populus deltoides	15	No	FAC	Total Number of Dominant
4. Quercus rubra	10	No	FACU	Species Across All Strata: 5 (B)
5. Celtis occidentalis	5	No	FAC	Percent of Dominant Species
6. Ostrya virginiana	5	No	FACU	That Are OBL, FACW, or FAC: 40.0% (A/B
7.				Prevalence Index worksheet:
	90	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:15')				OBL species0 x 1 =0
Carya cordiformis	10	Yes	FAC	FACW species 0 x 2 = 0
2. Carpinus caroliniana	8	Yes	FAC	FAC species 42 x 3 = 126
3. Acer saccharum	5	Yes	FACU	FACU species 75 x 4 = 300
4. Elaeagnus umbellata	2	No	UPL	UPL species 4 x 5 = 20
5.				Column Totals: 121 (A) 446 (B
6.				Prevalence Index = $B/A = 3.69$
7.				Hydrophytic Vegetation Indicators:
	25	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5')				2 - Dominance Test is >50%
1. Carex pensylvanica	2	No	UPL	3 - Prevalence Index is ≤3.0 ¹
Toxicodendron radicans	2	No	FAC	4 - Morphological Adaptations ¹ (Provide supporting
3.				data in Remarks or on a separate sheet)
4.				Problematic Hydrophytic Vegetation ¹ (Explain)
5.				¹ 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 diamet
9.				at breast height (DBH), regardless of height.
10.				Sapling/shrub – Woody plants less than 3 in. DBH
11.				and greater than or equal to 3.28 ft (1 m) tall.
12.				Harb All bothogogue (non woody) plante regardless
	4	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless 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. Vitis riparia	2	No	FAC	height.
2.				
3.				Hydrophytic Vegetation
4.				Present? Yes No X
	2	=Total Cover		

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

Sampling Point:

dp06

SOIL Sampling Point: dp06 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) % Loc² (inches) Color (moist) % Type¹ Texture Remarks 0-5 10YR 4/2 100 Sandy 5-24 10YR 4/4 100 Sandy ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149B) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Very Shallow Dark Surface (F22) Sandy Redox (S5) Redox Depressions (F8) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): **Hydric Soil Present?** Yes No Remarks: This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Edenville Dam	City/County: Gladwin	n	Sampling Date: 22 Mar 2021		
Applicant/Owner: Four Lakes Task Force		State: MI	Sampling Point: dp07		
Investigator(s): K. Leister	Section, To	wnship, Range: Sec. 35,	T17N R1W		
Landform (hillside, terrace, etc.): Floodplain	Terrace Local relief (concave, conve	x, none): Concave	Slope %: <u>0-2</u>		
Subregion (LRR or MLRA): LRR L, MLRA 98		-84.388711	Datum: WGS 84		
Soil Map Unit Name: Ceresco loam		NWI classification:	None		
Are climatic / hydrologic conditions on the site	typical for this time of year? Yes X	No (If no, e	explain in Remarks.)		
Are Vegetation, Soil, or Hydrol		nal Circumstances" prese			
Are Vegetation, Soil, or Hydrol		d, explain any answers in			
	site map showing sampling point locat		,		
Hydrophytic Vegetation Present?	Yes X No Is the Sampled A	rea			
Hydric Soil Present?	Yes X No within a Wetland	? Yes X	No		
Wetland Hydrology Present?	Yes X No If yes, optional We	tland Site ID:			
HYDROLOGY					
		<u> </u>			
Wetland Hydrology Indicators:	de ale all that apply)		minimum of two required)		
Primary Indicators (minimum of one is require	• • • • • • • • • • • • • • • • • • • •	Surface Soil Cracks (B6)			
Surface Water (A1) High Water Table (A2)	X Water-Stained Leaves (B9) Aquatic Fauna (B13)	Drainage Patterns Moss Trim Lines (E			
X Saturation (A3)	Marl Deposits (B15)	Dry-Season Water			
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (
X Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	Saturation Visible of	on Aerial Imagery (C9)		
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stresse	d Plants (D1)		
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	X Geomorphic Position	, ,		
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard ([
Inundation Visible on Aerial Imagery (B7)		Microtopographic R			
Sparsely Vegetated Concave Surface (B	·)	X FAC-Neutral Test (D5)		
Field Observations: Surface Water Present? Yes	No X Depth (inches):				
Water Table Present? Yes X					
Saturation Present? Yes X	No Depth (inches): 12 Wetlan	nd Hydrology Present?	Yes X No		
(includes capillary fringe)					
Describe Recorded Data (stream gauge, mor	itoring well, aerial photos, previous inspections), if a	available:			
Remarks:					
Nemans.					
US Army Corps of Engineers		Northcentral and No	ortheast Region – Version 2.0		

VEGETATION – Use scientific names of plants. Sampling Point: dp07 Absolute Dominant Indicator Tree Stratum (Plot size: 30') % Cover Species? **Dominance Test worksheet:** Status 15 Yes **FACW** 1. Ulmus americana **Number of Dominant Species** 2. Betula papyrifera 15 Yes **FACU** That Are OBL, FACW, or FAC: (A) 3. **Total Number of Dominant** 4. Species Across All Strata: (B) 5. Percent of Dominant Species That Are OBL, FACW, or FAC: 6. 80.0% (A/B Prevalence Index worksheet: 7. Total % Cover of: 30 =Total Cover Multiply by: Sapling/Shrub Stratum (Plot size: 15' **OBL** species 0 x 1 =0 Cornus alba **FACW FACW** species 125 1. Yes x 2 = 250 2. Salix discolor 30 Yes **FACW** FAC species 10 x 3 = 3. Rhamnus cathartica 5 No FAC **FACU** species 15 x 4 =60 4. 0 0 **UPL** species x 5 = 5. Column Totals: 150 (A) 340 (B 2.27 6. Prevalence Index = B/A = **Hydrophytic Vegetation Indicators:** 85 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation X 2 - Dominance Test is >50% Herb Stratum (Plot size: 1. Elymus virginicus 20 Yes **FACW** X 3 - Prevalence Index is ≤3.0¹ 5 4 - Morphological Adaptations¹ (Provide supportin 2. Solidago gigantea No **FACW** data in Remarks or on a separate sheet) 5 Panicum dichotomiflorum 3. No **FACW** 5 FAC Problematic Hydrophytic Vegetation¹ (Explain) Equisetum hyemale No 4. 5. ¹Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic. **Definitions of Vegetation Strata:** 7. 8. Tree - Woody plants 3 in. (7.6 cm) or more in diameter 9. at breast height (DBH), regardless of height. 10. Sapling/shrub - Woody plants less than 3 in. DBH 11.

35 =Total Cover

=Total Cover

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

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

Woody vines - All woody vines greater than 3.28 ft ir height.

Hydrophytic Vegetation Present?

No ___ Yes X

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

(Plot size:

30')

Woody Vine Stratum

2.

3.

SOIL Sampling Point: dp07 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Color (moist) % Loc² Color (moist) (inches) % Type¹ Texture Remarks 0-2 10YR 3/3 100 Sandy Sediment deposits 2-24 55 10YR 4/6 10YR 4/3 15 Μ Sandy Distinct redox concentrations

¹ Type: C=Concentration, D=Depletion, RM	=Reduced Matrix, MS=Masked Sand Grains.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Polyvalue Below Surface (S8) (LRR R,	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Histic Epipedon (A2)	MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
Black Histic (A3)	Thin Dark Surface (S9) (LRR R, MLRA 149B)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
Hydrogen Sulfide (A4)	X High Chroma Sands (S11) (LRR K, L)	Polyvalue Below Surface (S8) (LRR K, L)
Stratified Layers (A5)	Loamy Mucky Mineral (F1) (LRR K, L)	Thin Dark Surface (S9) (LRR K, L)
Depleted Below Dark Surface (A11)	Loamy Gleyed Matrix (F2)	Iron-Manganese Masses (F12) (LRR K, L, R)
Thick Dark Surface (A12)	Depleted Matrix (F3)	Piedmont Floodplain Soils (F19) (MLRA 149B)
Sandy Mucky Mineral (S1)	Redox Dark Surface (F6)	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Gleyed Matrix (S4)	Depleted Dark Surface (F7)	Red Parent Material (F21)
Sandy Redox (S5)	Redox Depressions (F8)	Very Shallow Dark Surface (F22)
X Stripped Matrix (S6)	Marl (F10) (LRR K, L)	Other (Explain in Remarks)
Dark Surface (S7)		
³ Indicators of hydrophytic vegetation and we	etland hydrology must be present, unless disturbed o	r problematic.
Restrictive Layer (if observed):		
Type:		

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils,

Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Depth (inches):

Remarks:

10YR 3/2

30

Yes

Χ

No

Hydric Soil Present?

Project/Site:	Edenville Dam			City/County:	Gladwin C	Ю.	Sampling D	ate:	3/16/2021
Applicant/Owner:	Four Lakes Task Force					State: MI	Sampling Po	oint:	dp08
Investigator(s):	E. Vander Stelt; B. Norris	s		Sectio	n, Township, Range:		T17N, R01W, Sec	ction 36	
Landform (hillslope, te	errace, etc.):		Footslope	_	Local relief (concav	e, convex, none	e): convex		
Slope (%): 3	3-5% Lat:	43.8142	213	Long:	-84.388519		Datum:	NAI	D83 HARN
Soil Map Unit Name:	Covert sand, loar	ny substratum,	0 to 6 percent slope	es		NWI cla	ssification:		none
Are climatic / hydrolog	gic conditions on the site typ	pical for this time	e of year?	Yes X	No (If no,	explain in Rema	arks.)		
Are Vegetation	, Soil,	or Hydrology	significantly o	disturbed?	Are "Normal Circums	tances" presen	t? Yes _	X No	
Are Vegetation	, Soil,	or Hydrology	naturally prob	blematic?	(If needed, explain an	y answers in R	emarks.)		
SUMMARY OF	FINDINGS Attach	site map sh	owing samplin	g point location	ns, transects, imp	oortant feat	ures, etc.		
Hydrophytic Vegetat	tion Present?	Yes X	No	Is the Sa	mpled Area				
Hydric Soil Present?		Yes	No X	within a		Yes	No	Χ	
Wetland Hydrology F		Yes	No X	If yes, opt	tional Wetland Site ID:		· · · · · · · · · · · · · · · · · · ·		·
Remarks: (Expla	ain alternative procedures h	nere or in a sepa	arate report.)						
Antecedent precipita	ation analysis indicates cond	ditions are norm	al per the WETS ta	ible.					
HYDROLOGY									
Wetland Hydrology					Second	ary Indicators (r	minimum of two re	quired)	
	minimum of one is required	; check all that a	apply)			urface Soil Crac		94 04/	
Surface Water	(A1)		Water-Stained Lea	ves (B9)	Dr	ainage Patterns	s (B10)		
High Water Tal			Aquatic Fauna (B13			oss Trim Lines			
Saturation (A3)			Marl Deposits (B15			y-Season Wate			
Water Marks (E			Hydrogen Sulfide C			ayfish Burrows		· (CO)	
Sediment Depo Drift Deposits (Oxidized Rhizosphe Presence of Reduc	_		aturation visible unted or Stress	on Aerial Imagery ed Plants (D1)	(09)	
Algal Mat or Cr			Recent Iron Reduct			eomorphic Posi			
Iron Deposits (I	, ,		Thin Muck Surface			nallow Aquitard			
	ble on Aerial Imagery (B7)		Other (Explain in R			crotopograpic F			
Sparsely Veget	tated Concave Surface (B8	-			FA	AC-Neutral Test	(D5)		
Field Observations	 3:				Τ				
Surface Water Prese	ent? Yes	No X	Depth (inches):						
Water Table Present	nt? Yes	No X	Depth (inches):						
Saturation Present?	Yes	No X	Depth (inches):		Wetland Hydrology	Present?	Yes	No X	
(includes capillary fri									<u> </u>
Describe Recorded	Data (stream gauge, monit	oring well, aeria	l photos, previous ir	nspections), if avail	able:				
Remarks:									
No indicators of hydr	rology observed.								

	Absolute	Dominant	Indicator	
<u>Tree Stratum</u> (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1. Pinus strobus	25	Yes	FACU	
Thuja occidentalis	15	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
3. Rhamnus cathartica	5	No	FAC	···
4. Tsuga canadensis	10	No	FACU	Total Number of Dominant Species Across All Strata 3 (B)
5.		140	1700	``
6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)
7				Are OBL, FACW, OF FAC.
<u></u>	55	= Total Cove		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.		= Total Cove		
)			Total % Cover of: Multiply by:
1				OBL species
2				FACW species 15 x 2 = 30
3				FAC species 15 x 3 = 45
4				FACU species 35 x 4 = 140
5				UPL species 0 x 5 = 0
6				Column Totals:65 (A)215 (B)
7				Prevalence Index = B/A = 3.31
		= Total Cover	r	
Herb Stratum (Plot size: 5 ft.)				
1. Rhamnus cathartica	10	Yes	FAC	Hydrophytic Vegetation Indicators:
2				Rapid Test for Hydrophytic Vegetation
3				X Dominance Test is >50%
4				Prevalence Index is ≤ 3.0 ¹
5				Morphological Adaptations ¹ (Provide supporting
6				data in Remarks or on a separate sheet)
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10				
11				
12.				Definitions of Vegetation Strata:
13.				Tree - Woody plants 3 inches (7.6 cm) or more in
14				diameter at breast height (DBH), regardless of
15				height.
16				Sapling/shrub - Woody plants less than 3 inches
17				DBH and greater than 3.28 ft (1 m) tall.
18				
19				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
20				of size, and woody plants less than 5.20 it tall.
	10	= Total Cover		Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.)			height.
1.	,			
2				Hydrophytic Vegetation Present ?
2				
4.				Yes x No
		= Total Cover		<u> </u>
Demonstra (laskuda akata gurakara kara ara ara ara ara ara ara ara		. 3.6. 33701		
Remarks: (Include photo numbers here or on a separate sheet.)				

-	Depth Matrix Redox Features										
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Ren	narks		
0-5"	10YR 3/3	100					Sandy Clay Loam				
							canay ciay zcam				
	ncentration, D=Depletion	ı, RM=Redi	uced Matrix, MS=Mask	ed Sand G	rains. ² Loca	tion: PL=P					
ydric Soil Ir							Indicators for Prob	_	oils":		
Histosol		_	Stripped Matrix (S				2 cm Muck (
	pipedon (A2) istic (A3)	_	Loamy Mucky Mir Loamy Gleyed Ma					Redox (A16) Peat or Peat (S3)			
	en Sulfide (A4)	_	Depleted Matrix (F				Dark Surface				
	d Layers (A5)	_	Redox Dark Surfa					elow Surface (S8)			
	d Below Dark Surface (/	A11)	Depleted Dark Su				Thin Dark Su				
	ark Surface (A12)	· –	Redox Depression					ese Masses (F12))		
Sandy N	Mucky Mineral (S1)						Red Parent I	Material (F21)			
	Gleyed Matrix (S4)						Very Shallow	Dark Surface (TF	12)		
Sandy F	Redox (S5)						Other (Expla	in in Remarks)			
Indicators of	hydrophytic vegetation	and wetlan	d hydrology must be p	resent, unle	ess disturbed	d or probler	matic.				
			a nyaranagy maat sa pi			1					
	aver (if observed):										
estrictive L	., (
	Tree roots										
	Tree roots	1				Uvdrio S	oil Present?	Yes	No X		

Project/Site:	Edenville Dam		City/County:	Gladwin Co.		Sampling Date:	3/16/2021
Applicant/Owner:	Four Lakes Task Force			State:	MI	Sampling Point: _	dp09
Investigator(s):	E. Vander Stelt; B. Norris	3	Section	, Township, Range:	T17	N, R01W, Section (01
Landform (hillslope, to	errace, etc.):	Footslope		Local relief (concave, con	vex, none): c	oncave	
Slope (%):	2-4% Lat:	43.814161	Long:	-84.388518	_	Datum: 1	NAD83 HARN
Soil Map Unit Name:	Covert sand, loan	ny substratum, 0 to 6 percent slo	pes		NWI classifi	cation:	none
Are climatic / hydrolog	gic conditions on the site typ	pical for this time of year?	Yes X	No (If no, explair	in Remarks.)	
Are Vegetation	, Soil ,	or Hydrologysignificantl	y disturbed?	Are "Normal Circumstances	" present?	Yes X I	No
Are Vegetation		or Hydrology naturally p		(If needed, explain any answ	vers in Rema	rks.)	
		site map showing sampl		ns. transects. importa	nt feature:	s. etc.	
			<u> </u>	-			
Hydrophytic Vegeta		Yes X No	_	npled Area	V V	N.	
Hydric Soil Present? Wetland Hydrology		Yes X No No	within a V	onal Wetland Site ID:	Yes X	No	_
	ain alternative procedures h			Shar vvetiana one ib.			
		ditions are normal per the WETS	table.				
HYDROLOGY							
Wetland Hydrology	v Indicators:			Secondary Ind	icators (minir	num of two require	d)
	minimum of one is required;	check all that apply)			Soil Cracks (I		<u>- / </u>
Surface Water	(A1)	Water-Stained Le	eaves (B9)	X Drainage	Patterns (B1	10)	
X High Water Ta		Aquatic Fauna (E			m Lines (B16		
X Saturation (A3)		Marl Deposits (B			son Water Ta		
Water Marks (Sediment Depo		Hydrogen Sulfide	e Odor (C1) oheres on Living Roots		Burrows (C8)) Aerial Imagery (C9)	1
Drift Deposits		Presence of Red	_		or Stressed F		
Algal Mat or Ci			uction in Tilled Soils (C				
Iron Deposits (Thin Muck Surface			Aquitard (D3)		
Inundation Visi	ible on Aerial Imagery (B7)	Other (Explain in	Remarks)	Microtop	ograpic Relie	f (D4)	
Sparsely Vege	etated Concave Surface (B8))		FAC-Net	utral Test (D5)	
Field Observations	S:						
Surface Water Pres	sent? Yes	No X Depth (inches):	:				
Water Table Preser	nt? Yes X	No Depth (inches):	surface				
Saturation Present?	Yes X	No Depth (inches):	surface	Wetland Hydrology Prese	nt? Y	es X No	
(includes capillary fr							
Describe Recorded	Data (stream gauge, monito	oring well, aerial photos, previous	s inspections), if availa	ble:			
Demonstra							
Remarks:							
ì							

	Absolute	Dominant	Indicator	
<u>Tree Stratum</u> (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1. Rhamnus cathartica	60	Yes	FAC	Number of Dominant Species That
2.				Are OBL, FACW, or FAC: 3 (A)
3.				Total Number of Dominant Species
4.				Across All Strata 3 (B)
5				Percent of Dominant Species That
6.				Are OBL, FACW, or FAC:
7				
	60	= Total Cover		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1				OBL species 0 x 1 = 0
2				FACW species 0 x 2 = 0
3				FAC species 85 x 3 = 255
4				FACU species 0 x 4 = 0
5				UPL species 0 x 5 = 0
6				Column Totals: <u>85</u> (A) <u>255</u> (B)
7				Prevalence Index = B/A = 3.00
		= Total Cover		
Herb Stratum (Plot size: 5 ft.)				
1. Rhamnus cathartica	20	Yes	FAC	Hydrophytic Vegetation Indicators:
2. Carex blanda	5	Yes	FAC	Rapid Test for Hydrophytic Vegetation
3				X Dominance Test is >50%
4				X Prevalence Index is ≤ 3.0 ¹
5				Morphological Adaptations ¹ (Provide supporting
6				data in Remarks or on a separate sheet)
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10				
11				
12				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in
14				diameter at breast height (DBH), regardless of height.
15				-
16				Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.
17				==: and ground state o.zo it (1 iii) tall.
18				Herb - All herbaceous (non-woody) plants, regardless
19				of size, and woody plants less than 3.28 ft tall.
20				
Wasaki Vina Chatum (Dl.)	25	= Total Cover		Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: 30 ft.)				
1				Hydrophytic Vegetation Present ?
2				Trydrophytic vegetation Fresent :
3				Yes x No
		= Total Cove		162 <u>X</u> 140
		- i otai Covei		
Remarks: (Include photo numbers here or on a separate sheet.)				

Profile Descr	iption: (Describe to t	he depth ne	eded to document th	e indicato	r or confirm	the absence	ce of indicators.)	
Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-4"	10YR 2/2	100					Mucky Sand	
4-8"	10YR 4/1	80	10YR 3/6	20	С	M	Mucky Sand	
8-12"	10YR 6/4	90	10YR 5/6	10	С	M	Sandy Clay	
<u> </u>								
<u> </u>								
¹ Type: C=Con	centration, D=Depletic	on. RM=Red	uced Matrix, MS=Mask	ed Sand G	irains. ² Loca	ation: PL=Po	ore Lining, M=Matrix.	
Hydric Soil In		,	, , , , , , , , , , , , , , , , , , , ,					olematic Hydric Soils ³ :
Histosol		_	Stripped Matrix (S				2 cm Muck (
Histic Ep Black Hi	oipedon (A2)	_	Loamy Mucky Min Loamy Gleyed M					e Redox (A16) Peat or Peat (S3)
	en Sulfide (A4)	_	Depleted Matrix (Dark Surfac	
	d Layers (A5)	_	Redox Dark Surfa					elow Surface (S8)
	d Below Dark Surface	(A11)	Depleted Dark St				Thin Dark S	
	ark Surface (A12)	_	Redox Depression	ns (F8)				nese Masses (F12)
	Mucky Mineral (S1) Bleyed Matrix (S4)							Material (F21) v Dark Surface (TF12)
X Sandy R								ain in Remarks)
	,							,
3Indicators of	hydrophytic vegetation	n and wetlan	d hydrology must be p	resent, unle	ess disturbed	d or problem	natic.	
	ayer (if observed):			·				
	Vater (soil won't stay to	ngether)						
_							!! Para a su 10	V V N-
Depth (ii	ncnes):	12"				Hydric So	oil Present?	Yes X No
Remarks:								

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Edenville Dam	City/County: Gladwin Sampling Date: 22 Mar 2021
Applicant/Owner: Four Lakes Task Force	State: MI Sampling Point: dp10
Investigator(s): K. Leister	Section, Township, Range: Sec. 35, T17N R1W
Landform (hillside, terrace, etc.): Toe of slope	Local relief (concave, convex, none): Concave Slope %: 2-4
Subregion (LRR or MLRA): LRR L, MLRA 98 Lat: 43.8150615	
Soil Map Unit Name: Cover sand, loamy substratum, 0 to 6 percent	
Are climatic / hydrologic conditions on the site typical for this time of y	
Are Vegetation, Soil, or Hydrology significantly	
Are Vegetation, Soil, or Hydrologynaturally pr	
SUMMARY OF FINDINGS – Attach site map showing	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:
Remarks: (Explain alternative procedures here or in a separate repo	
Tromano. (Explain altomative prosociates note of in a coparate repe	,
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) X Water-Stained Le	
High Water Table (A2) Aquatic Fauna (B	
Saturation (A3) Marl Deposits (B1	Dry-Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide	
X Sediment Deposits (B2) Oxidized Rhizosp	heres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Redu	uced Iron (C4) Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4) Recent Iron Redu	ction in Tilled Soils (C6) X Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Surface	e (C7) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7) Other (Explain in	Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No _X Depth (in	nches):
Water Table Present? Yes No X Depth (in	nches):
Water Table Present? Yes No X Depth (ii Saturation Present? Yes No X Depth (ii	nches): Wetland Hydrology Present? Yes X No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial phot	os, previous inspections), if available:
Remarks:	

VEGETATION – Use scientific names of plants. Sampling Point: dp10 Absolute Dominant Indicator **Dominance Test worksheet:** Tree Stratum (Plot size: 30') % Cover Species? Status 1. 10 Yes FAC Acer rubrum **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: 7. Total % Cover of: 10 =Total Cover Multiply by: Sapling/Shrub Stratum (Plot size: 15' **OBL** species 5 x 1 =5 Rhamnus cathartica FAC **FACW** species 42 84 1. Yes x 2 = 2. Alnus incana 10 **FACW** FAC species 50 x 3 = 150 3. Cornus alba 10 No **FACW FACU** species 12 x 4 =48 4. Fraxinus pennsylvanica 2 No **FACW UPL** species 0 0 x 5 = 5. Column Totals: 109 (A) 287 (B 2.63 6. Prevalence Index = B/A = **Hydrophytic Vegetation Indicators:** 7. 62 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation X 2 - Dominance Test is >50% Herb Stratum (Plot size: 1. Elymus virginicus 20 Yes **FACW** X 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supportin 2. Pteridium aquilinum 10 Yes **FACU** data in Remarks or on a separate sheet) 5 OBL 3. Boehmeria cylindrica No 2 FACU Problematic Hydrophytic Vegetation¹ (Explain) Fallopia convolvulus No 4. 5. ¹Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic. **Definitions of Vegetation Strata:** 7. 8. Tree - Woody plants 3 in. (7.6 cm) or more in diameter 9. at breast height (DBH), regardless of height. 10. Sapling/shrub - Woody plants less than 3 in. DBH 11.

37 =Total Cover

=Total Cover

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

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

Woody vines - All woody vines greater than 3.28 ft ir height.

Hydrophytic Vegetation

Present? No ___ Yes X

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

(Plot size:

30')

Woody Vine Stratum

2.

3.

	•	o the de	-			tor or co	onfirm the absence of	indicators.)
Depth (inches)	Matrix	<u></u> %		x Featur		Loc ²	Touturo	Domorko
(inches)	Color (moist)	7 0	Color (moist)	<u>%</u>	Type ¹	LOC	Texture	Remarks
0-4	10YR 2/2	95	7.5YR 3/4	5	С	PL	Mucky Loam/Clay	Distinct redox concentrations
4-12	10YR 3/2	90	10YR 3/6	10	С	M	Loamy/Clayey	Prominent redox concentrations
12-24	10YR 5/3	50	10YR 3/6	25	С	M	Loamy/Clayey	Distinct redox concentrations
	10YR 4/1	25						
¹ Type: C=Co	ncentration, D=Deple	etion, RM	l=Reduced Matrix, M	IS=Mask	ed Sand	Grains.		_=Pore Lining, M=Matrix.
Hydric Soil II								or Problematic Hydric Soils ³ :
Histosol (` '		Polyvalue Belo		ce (S8) (I	LRR R,		ck (A10) (LRR K, L, MLRA 149B)
	ipedon (A2)		MLRA 149B	,				airie Redox (A16) (LRR K, L, R)
Black His	stic (A3)		Thin Dark Surf	ace (S9)	(LRR R	MLRA 1	149B)5 cm Mu	cky Peat or Peat (S3) (LRR K, L, R)
Hydroger	n Sulfide (A4)		High Chroma S	Sands (S	311) (LRF	R K, L)	 ·	e Below Surface (S8) (LRR K, L)
Stratified	Layers (A5)		X Loamy Mucky	Mineral	(F1) (LR F	R K, L)	Thin Darl	k Surface (S9) (LRR K, L)
Depleted	Below Dark Surface	(A11)	Loamy Gleyed	Matrix (F2)		Iron-Man	ganese Masses (F12) (LRR K, L, R)
Thick Da	rk Surface (A12)		Depleted Matri	x (F3)			Piedmon	t Floodplain Soils (F19) (MLRA 149B)
Sandy Mu	ucky Mineral (S1)		X Redox Dark Su	ırface (F	6)		Mesic Sp	odic (TA6) (MLRA 144A, 145, 149B)
Sandy GI	leyed Matrix (S4)		Depleted Dark	Surface	(F7)		Red Pare	ent Material (F21)
Sandy Re	edox (S5)		Redox Depres	sions (F	3)		Very Sha	allow Dark Surface (F22)
Stripped	Matrix (S6)		Marl (F10) (LR	R K, L)			Other (E)	xplain in Remarks)
Dark Surf	face (S7)						, 	
³ Indicators of	hydrophytic vegetation	on and w	vetland hydrology mu	st be pre	esent. un	less dist	urbed or problematic.	
	ayer (if observed):		,	- 1	,			
Type:								
Depth (in	ches):						Hydric Soil Presen	t? Yes X No
Remarks:			_ 				ļ	<u> </u>

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Edenville Dam	City/County: Glad	win	Sampling Date: 22 Mar 2021
Applicant/Owner: Four Lakes Task Force		State: MI	Sampling Point: dp11
Investigator(s): K. Leister	Section, 1	Fownship, Range: Sec. 35,	T17N R1W
Landform (hillside, terrace, etc.): Footslope	Local relief (concave, con	vex, none): Convex	Slope %: _ 6-10
Subregion (LRR or MLRA): LRR L, MLRA 98		g: -84.3875499	Datum: WGS 84
Soil Map Unit Name: Covert sand, loamy substratu		NWI classification:	None
Are climatic / hydrologic conditions on the site typica			explain in Remarks.)
Are Vegetation, Soil, or Hydrology _		ormal Circumstances" prese	
			
Are Vegetation, Soil, or Hydrology _		led, explain any answers in	,
SUMMARY OF FINDINGS – Attach site	map showing sampling point loca	ations, transects, im	portant features, etc.
Hydrophytic Vegetation Present? Yes	No X Is the Sampled	Area	_
<u> </u>	No X within a Wetlan		No X
Wetland Hydrology Present? Yes	No X If yes, optional V	Vetland Site ID:	
Remarks: (Explain alternative procedures here or i	n a separate report.)		
L HYDROLOGY			
		0	
Wetland Hydrology Indicators:	and all the standard	-	ninimum of two required)
Primary Indicators (minimum of one is required; ch		Surface Soil Cracks	, ,
	Water-Stained Leaves (B9)	Drainage Patterns (
	Aquatic Fauna (B13)	Moss Trim Lines (B	
	Marl Deposits (B15) Hydrogen Sulfide Odor (C1)	Dry-Season Water Crayfish Burrows (0	
l 	Oxidized Rhizospheres on Living Roots (C3)		on Aerial Imagery (C9)
l 	Presence of Reduced Iron (C4)	Stunted or Stressed	
<u> </u>	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position	` '
	Thin Muck Surface (C7)	Shallow Aquitard (D	` '
I — · · · · · · —	Other (Explain in Remarks)	Microtopographic R	
Sparsely Vegetated Concave Surface (B8)	,	FAC-Neutral Test (` '
Field Observations:			
Surface Water Present? Yes No _	X Depth (inches):		
Water Table Present? Yes No			
		and Hydrology Present?	Yes No _ X
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring	g well, aerial photos, previous inspections), i	f available:	
Remarks:			

VEGETATION – Use scientific names of plants. Sampling Point: dp11 Absolute Dominant Indicator 30') **Dominance Test worksheet:** <u>Tree Stratum</u> (Plot size: % Cover Species? Status Thuja occidentalis 40 Yes **FACW** 1. **Number of Dominant Species** 2. Tilia americana 30 Yes **FACU** That Are OBL, FACW, or FAC: 2 (A) 3. Tsuga canadensis Yes **FACU Total Number of Dominant** 4. Species Across All Strata: (B) 5. Percent of Dominant Species That Are OBL, FACW, or FAC: 6. 50.0% (A/B Prevalence Index worksheet: 7. Multiply by: 90 =Total Cover Total % Cover of: Sapling/Shrub Stratum (Plot size: 15' 0 **OBL** species x 1 =0 Rhamnus cathartica FAC **FACW** species 40 80 Yes x 2 = 2. FAC species 32 x 3 = 3. **FACU** species 50 x 4 =200 4. **UPL** species 0 0 x 5 = 5. Column Totals: 122 (A) 376 (B 3.08 6. Prevalence Index = B/A = **Hydrophytic Vegetation Indicators:** 30 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% Herb Stratum (Plot size: 5') 1. None 3 - Prevalence Index is ≤3.01 4 - Morphological Adaptations¹ (Provide supportin 2. data in Remarks or on a separate sheet) 3. Problematic Hydrophytic Vegetation¹ (Explain) 4. 5. ¹Indicators of hydric soil and wetland hydrology must 6. be present, unless disturbed or problematic. **Definitions of Vegetation Strata:** 7. 8. Tree - Woody plants 3 in. (7.6 cm) or more in diameter 9. 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. 11. Herb - All herbaceous (non-woody) plants, regardless =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 ir Vitis riparia height. 2. Hydrophytic 3. Vegetation

=Total Cover

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

Yes

No X

Present?

SOIL

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

Profile Desci	ription: (Describe t	o the de	oth needed to docu	ment th	ne indicat	tor or co	onfirm the absence of indicators.)
Depth	Matrix		Redo	x Featu			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks
0-1	10YR 3/1	100					Sandy
1-16	10YR 6/3	100					Sandy
16-24	10YR 3/1	100					Sandy
				<u> </u>			
	ncentration, D=Depl	etion, RM	=Reduced Matrix, M	S=Masl	ked Sand	Grains.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soil I			5 5.	۰ ،	(00) (1		Indicators for Problematic Hydric Soils ³ :
Histosol (Polyvalue Belo		ce (S8) (I	RK K,	2 cm Muck (A10) (LRR K, L, MLRA 149B)
	ipedon (A2)		MLRA 149B)				Coast Prairie Redox (A16) (LRR K, L, R)
Black His	` '		Thin Dark Surfa	` '	, ,		
<u> </u>	n Sulfide (A4)		High Chroma S				Polyvalue Below Surface (S8) (LRR K, L)
	Layers (A5)		Loamy Mucky I			R K, L)	Thin Dark Surface (S9) (LRR K, L)
Depleted	Below Dark Surface	e (A11)	Loamy Gleyed	Matrix ((F2)		Iron-Manganese Masses (F12) (LRR K, L, R)
Thick Da	rk Surface (A12)		Depleted Matrix	k (F3)			Piedmont Floodplain Soils (F19) (MLRA 149B)
Sandy M	ucky Mineral (S1)		Redox Dark Su	rface (F	- 6)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy GI	leyed Matrix (S4)		Depleted Dark	Surface	e (F7)		Red Parent Material (F21)
Sandy Re	edox (S5)		Redox Depress	ions (F	8)		Very Shallow Dark Surface (F22)
Stripped	Matrix (S6)		Marl (F10) (LR	R K, L)			Other (Explain in Remarks)
Dark Sur	face (S7)						 -
³ Indicators of	hydrophytic vegetati	ion and w	etland hydrology mu	st be pr	esent. un	less distu	urbed or problematic.
	ayer (if observed):		,	- 1	-,		<u> </u>
Type:	· ,						
Depth (in	ches):						Hydric Soil Present? Yes No _X

Remarks

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Project/Site:	Edenville Dam			City/County:	Glad	lwin Co.	Samplin	g Date:	3/16/2021
Applicant/Owner:	Four Lakes Task Force	<u> </u>				State:	MI Samplin	g Point:	dp12
Investigator(s):	E. Vander Stelt; B. Nor	ris		Section	on, Township, Rang	ge:	T17N, R01W,	Section 36	,
Landform (hillslope, te	errace, etc.):		Toeslope		Local relief (co	oncave, conve	x, none): concave		
Slope (%): 1	I-2% Lat:	43.814	080	Long:	-84.3875	575	Datun	n: <u>NA</u>	AD83 HARN
Soil Map Unit Name:	Covert sand, lo	amy substratum,	0 to 6 percent slop	es		N	IWI classification:		PSS1Cx
Are climatic / hydrolog	gic conditions on the site	typical for this tim	ne of year?	Yes X	. No (I	If no, explain ir	n Remarks.)		
Are Vegetation	, Soil	_, or Hydrology	significantly	disturbed?	Are "Normal Cir	cumstances" p	oresent? Yes	X_No)
Are Vegetation	, Soil	, or Hydrology	naturally pro	oblematic?	(If needed, expla	ain any answe	rs in Remarks.)		
SUMMARY OF	FINDINGS Attach	າ site map sh	owing samplir	ng point location	ons, transects,	, important	features, etc.		
Hydrophytic Vegetat	tion Present?	Yes X	No	Is the Sa	mpled Area				
Hydric Soil Present?		Yes X	No No		Wetland?		Yes X N	lo	
Wetland Hydrology F		Yes X	No	If yes, op	tional Wetland Site				
Remarks: (Expla	ain alternative procedures	here or in a sep	arate report.)						<u> </u>
Antecedent precipita	ation analysis indicates co	onditions are norm	nal per the WETS to	able.					I
HYDROLOGY									
Wetland Hydrology					Se	econdary Indica	ators (minimum of two	o required)	
	minimum of one is require	ed; check all that	apply)			-	il Cracks (B6)	<u> </u>	
Surface Water	(A1)		Water-Stained Lea	aves (B9)		Drainage P	atterns (B10)		
X High Water Tal			_Aquatic Fauna (B1				Lines (B16)		
X Saturation (A3)			Marl Deposits (B1				n Water Table (C2)		
Water Marks (E			Hydrogen Sulfide (Odor (C1) neres on Living Roc	±~ (C3)	Crayfish Bu	urrows (C8) Visible on Aerial Ima	~~n/ (CQ)	
Sediment Depo Drift Deposits (_Oxidized Rhizosph Presence of Redu	_	TS (C3)		Stressed Plants (D1)		
Algal Mat or Cr			_	ction in Tilled Soils ((C6) —		ic Position (D2)		
Iron Deposits (I	` '	X	Thin Muck Surface			Shallow Aq			
	ble on Aerial Imagery (B7		Other (Explain in R		_		rapic Relief (D4)		
Sparsely Veget	tated Concave Surface (E	38)	-		<u>></u>	X FAC-Neutr	al Test (D5)		
Field Observations	- ::								
Surface Water Prese	ent? Yes	No X	Depth (inches):						
Water Table Presen	t? Yes X	No	Depth (inches):	8"					
Saturation Present?	Yes X	No	Depth (inches):	12"	Wetland Hydro	logy Present	? Yes <u>X</u>	No	
(includes capillary fri	• ,		<u>-</u>						
Describe Recorded	Data (stream gauge, mor	nitoring well, aeria	al photos, previous i	inspections), if avai	lable:				
Remarks:									

	Absolute	Dominant	Indicator	
<u>Tree Stratum</u> (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1. Thuja occidentalis	5	Yes	FACW	
Fraxinus pennsylvanica	5	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)
3.		100	17.00	···
4.				Total Number of Dominant Species Across All Strata 5 (B)
5.				
6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)
7.				100 / (100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 / 100 /
· -	10	= Total Cover		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1. Rhamnus cathartica	, 5	Yes	FAC	OBL species 40 x 1 = 40
2.			1710	FACW species 21 x 2 = 42
3.				FAC species 20 x 3 = 60
4.				FACU species 0 x 4 = 0
5.				UPL species 0 x 5 = 0
6.				Column Totals: 81 (A) 142 (B)
7				Prevalence Index = B/A = 1.75
· -	5	= Total Cover		Prevalence index = B/A = 1.75
Herb Stratum (Plot size: 5 ft.)		= Total Cover		
1. Apocynum cannabinum	5	No	FAC	Hydrophytic Vegetation Indicators:
2. Cornus alba	5	No No	FACW	Rapid Test for Hydrophytic Vegetation
3. Symphyotrichum lateriflorum	5	No No	FAC	X Dominance Test is >50%
4. Mentha arvensis	1	No No	FACW	X Prevalence Index is ≤ 3.0¹
5. Juncus effusus		Yes	OBL	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6. Equisetum hyemale	5	No No	FAC	,
7. Scirpus cyperinus	20	Yes	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
8. Onoclea sensibilis	5	No	FACW	¹ Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10				
11				Definitions of Vanatation Ctuates
12				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in
14				diameter at breast height (DBH), regardless of height.
15				
16				Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.
17				DBH and greater than 3.20 ft (1 fil) tall.
18				Herb - All herbaceous (non-woody) plants, regardless
19				of size, and woody plants less than 3.28 ft tall.
20				
	66	= Total Cover	•	Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.))			height.
1				
2				Hydrophytic Vegetation Present ?
3				
4				Yes <u>x</u> No
		= Total Cover	•	
Remarks: (Include photo numbers here or on a separate sheet.)				

		e depth n	eeded to document the			the absence	ce of indicators.)	
Depth (inches)	Matrix Color (moist)	%	Color (moist)	dox Feat %	ures Type ¹	Loc ²	Texture	Remarks
0-1"	10YR 2/2	100	Color (moist)		Турс		Mucky Sand	Remarks
1-8"	10YR 5/3	95	10YR 7/4	5			Sand	
8-20"	10YR 5/1	98	10YR 6/6		C			_
8-20	101K 5/1	96	1011 6/6	2		IVI	Clay	
	·							
								_
								-
¹ Type: C=Con	ncentration, D=Depletion	n, RM=Red	luced Matrix, MS=Mask	ed Sand G	Grains. ² Loca	ation: PL=Po	ore Lining, M=Matrix.	
Hydric Soil Ir								lematic Hydric Soils³:
Histosol		_	Stripped Matrix (S				2 cm Muck (A	
	pipedon (A2)	_	Loamy Mucky Mir					Redox (A16) Peat or Peat (S3)
	istic (A3) en Sulfide (A4)	-	Loamy Gleyed Ma X Depleted Matrix (F				Dark Surface	
	d Layers (A5)	_	Redox Dark Surfa					low Surface (S8)
	d Below Dark Surface (A11)	Depleted Dark Su				Thin Dark Su	
	ark Surface (A12)	_	Redox Depression	ns (F8)				ese Masses (F12)
	Mucky Mineral (S1)						Red Parent N	
	Gleyed Matrix (S4) Redox (S5)							Dark Surface (TF12) n in Remarks)
Gandy i	(00)						Otrici (Explai	ii ii Kemanay
3Indicators of	hydrophytic vegetation	and wetlar	nd hydrology must be pr	resent, unl	ess disturbed	d or problem	atic.	
Restrictive La	ayer (if observed):							
Type:								
Depth (i						Uvdria Sa	il Present?	Vac V No
						nyuric 30	m Fresent?	Yes X No
Remarks:								
1								

Project/Site:	Edenville Dam			City/County:	C	Gladwin Co.	Sa	ampling Date:	3/16/2021
Applicant/Owner:	Four Lakes Task Force					State: M	I Sa	mpling Point:	dp13
Investigator(s):	E. Vander Stelt; B. Norr	is		Section	, Township, R	Range:	T17N, R	01W, Section 3	36
Landform (hillslope, te	errace, etc.):		Slough		Local relie	ef (concave, convex, no	ne): conc	ave	
Slope (%): 0	-1% Lat:	43.8152	:06	Long:	-84.3	386220		Datum: N	IAD83 HARN
Soil Map Unit Name:	Covert sand, loa	amy substratum,	0 to 6 percent slope	es		NWI o	lassificatio	n:	none
Are climatic / hydrolog	gic conditions on the site t	ypical for this time	e of year?	Yes X	No	(If no, explain in Rer	marks.)		
Are Vegetation	, Soil	, or Hydrology	significantly o	disturbed?	Are "Norma	l Circumstances" prese	ent?	YesN	lo X
Are Vegetation	, Soil X	, or Hydrology	naturally prob	blematic?	(If needed, e	explain any answers in	Remarks.)	ı	
SUMMARY OF I	FINDINGS Attach	site map sho	owing samplin	g point locatior	າຣ, transeເ	cts, important fea	ıtures, e	tc.	
		<u> </u>		<u> </u>		•			
Hydrophytic Vegetati Hydric Soil Present?		Yes X Yes X	No	Is the Sam within a W	-	Voo	Х	No	
Wetland Hydrology F		Yes X	No No		onal Wetland			No	_
	ain alternative procedures			1 755, 54					
, ,	tion analysis indicates cor			ble. Soil naturally pro	oblematic due	to wetland location in	drainage d	itch receiving e	rosion input from
sandy banks.									
HYDROLOGY									
Wetland Hydrology	Indicators					Secondary Indicators	(minimum	of two requires	1/
	ninimum of one is require	d: check all that a	(vlaar			Surface Soil Cra	•	or two required	<u>1) </u>
Surface Water			Water-Stained Lea	ves (B9)		X Drainage Patter			
High Water Tab			Aquatic Fauna (B13			Moss Trim Line			
Saturation (A3)			Marl Deposits (B15	5)		Dry-Season Wa	ter Table	(C2)	
Water Marks (E	31)		Hydrogen Sulfide C	Odor (C1)		Crayfish Burrow	/s (C8)		
Sediment Depo	osits (B2)			eres on Living Roots	(C3)	Saturation Visib	le on Aeria	I Imagery (C9)	
Drift Deposits (I			Presence of Reduc			Stunted or Street			
Algal Mat or Cr				tion in Tilled Soils (C	6)	X Geomorphic Po			
Iron Deposits (E			Thin Muck Surface			Shallow Aquitar			
	ole on Aerial Imagery (B7) ated Concave Surface (B		Other (Explain in R	emarks)		Microtopograpio X FAC-Neutral Te		4)	
						TAO-Neutial Te	St (D3)		
Field Observations		No. V	Donth (inches)						
Surface Water Present		No X	Depth (inches):						
Water Table Present Saturation Present?		No X	Depth (inches): Depth (inches):		Motland Hy	drology Present?	Vos	Y No	
	Yes	No X	Depth (inches):		wetland Hy	drology Present?	Yes	X No	
(includes capillary fri	nge) Data (stream gauge, mon	itoring well aeria	I photos previous ir	nspections) if availa	ble:				
Describe recorded i	Data (Stream gauge, mon	noring well, acria	r priotos, previous ii	ispections), ii availai	DIC.				
Damada									
Remarks:									

	Absolute	Dominant	Indicator	
<u>Tree Stratum</u> (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1				Number of Dominant Species That
2				Are OBL, FACW, or FAC: 1 (A)
3				Total Number of Dominant Species
4				Across All Strata 1 (B)
5				Percent of Dominant Species That
6				Are OBL, FACW, or FAC:
7				
		= Total Cove	r	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)			Total % Cover of: Multiply by:
1				OBL species5 x 1 =5
2				FACW species 25 x 2 = 50
3				FAC species0 x 3 =0
4				FACU species0 x 4 =0
5				UPL species0 x 5 =0
6				Column Totals: 30 (A) 55 (B)
7				Prevalence Index = B/A = 1.83
		= Total Cove	r	
Herb Stratum (Plot size: 5 ft.)	05	Vaa	E4.0\4/	Urdrankytia Vagatatian Indiaatara
1. Phalaris arundinacea	25	Yes	FACW	Hydrophytic Vegetation Indicators:
2. Juncus effusus	5	<u>No</u>	OBL	X Rapid Test for Hydrophytic Vegetation
3				$\frac{X}{X}$ Dominance Test is >50% $\frac{X}{X}$ Prevalence Index is $\leq 3.0^{1}$
4				
5				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6				Problematic Hydrophytic Vegetation ¹ (Explain)
7				
8		-		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
9				be present, unless disturbed of problematic.
11.				
12				Definitions of Vegetation Strata:
40				
				Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of
45				height.
40				Sapling/shrub - Woody plants less than 3 inches
47				DBH and greater than 3.28 ft (1 m) tall.
18				
19				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
20				of size, and woody plants less than 3.20 it tall.
	30	= Total Cove	r	Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.)			height.
1				
2.				Hydrophytic Vegetation Present ?
3.				
4.				Yes <u>x</u> No
		= Total Cove	r	
Remarks: (Include photo numbers here or on a separate sheet.)	<u></u> _			
,				

		ne depth n	eeded to document th			the absence	ce of indicators.)		
Depth (inches)	Matrix Color (moist)	%	Color (moist)	dox Feat	ures Type ¹	Loc ²	Texture	Re	marks
0-4"	10YR 3/2	98	10YR 4/4	2	C		Muck		
4-6"	10YR 5/4	90	10YR 5/6	10		M	Sand		
_ + 0	1011(0/4		10111 0/0				Cana		
								-	
								-	
								-	
¹ Type: C=Cor Hydric Soil Ir		n, RM=Red	luced Matrix, MS=Mask	ked Sand G	rains. ² Loca	tion: PL=Po	ore Lining, M=Matrix. Indicators for Pro	blematic Hydric S	Soils ³ :
Histosol			Stripped Matrix (S	S6)			X 2 cm Muck	_	
	pipedon (A2)	<u>-</u>	Loamy Mucky Mi	neral (F1)			Coast Prairi	e Redox (A16)	
	istic (A3)	-	Loamy Gleyed M					Peat or Peat (S3))
	en Sulfide (A4) d Layers (A5)	-	Depleted Matrix (Redox Dark Surfa				Dark Surface	ce (S7) selow Surface (S8)	
	d Below Dark Surface	(A11)	Depleted Dark Su				Thin Dark S		
	ark Surface (A12)	` ´ _	Redox Depression				Iron-Manga	nese Masses (F12	2)
	Mucky Mineral (S1)	_						Material (F21)	
	Gleyed Matrix (S4)							w Dark Surface (T	F12)
Sandy F	Redox (S5)						Other (Expl	ain in Remarks)	
		and wetlai	nd hydrology must be p	resent, uni	ess disturbed	or problem	natic.		
Restrictive L	ayer (if observed):								
Type: s	sand and gravel mixed								
Depth (i	nches):	3"				Hydric So	oil Present?	Yes	No X
Remarks:									
Naturally pro	blematic soil due to erc	sion and re	gular flash-flood draina	age; qualifie	s for problen	natic soil ind	licator 2 cm Muck (A	10)	

Project/Site:	Edenville Dam		City/Cou	inty: Glad	win Co.	Sampling Date: 3/16/202	1
Applicant/Owner:	Four Lakes Task Force	e			State: MI	Sampling Point: dp14	
Investigator(s):	E. Vander Stelt; B. Nor	ris		Section, Township, Rang	e: T1	7N, R01W, Section 36	
Landform (hillslope, te	errace, etc.):	Shoulde			oncave, convex, none):		
	-1% Lat:	43.815124	Long:		· ·	Datum: NAD83 HARN	<u> </u>
Soil Map Unit Name:	Covert sand, lo	amy substratum, 0 to 6 pe			NWI classi		
	•	typical for this time of year	•	es X No (I	f no, explain in Remarks		
Are Vegetation	-	, or Hydrology si			cumstances" present?	Yes X No	
Are Vegetation		, or Hydrology na			ain any answers in Rema		
_		site map showing			-		
	——————————————————————————————————————				, important reature		
Hydrophytic Vegetati		Yes No	-	the Sampled Area			ļ
Hydric Soil Present?		Yes No No		thin a Wetland?	Yes	No <u>X</u>	
Wetland Hydrology F		Yes No		es, optional Wetland Site	ID		
		s here or in a separate repo anditions are normal per the					
	,						
HYDROLOGY							
Wetland Hydrology				Se	condary Indicators (min	imum of two required)	
	minimum of one is require	ed; check all that apply)			Surface Soil Cracks		
Surface Water	(A1)	Water-S	tained Leaves (B9)		Drainage Patterns (E		
High Water Tab	ole (A2)		Fauna (B13)		Moss Trim Lines (B1		
Saturation (A3)			posits (B15)	_	Dry-Season Water T		
Water Marks (E			n Sulfide Odor (C1)		Crayfish Burrows (C8		
Sediment Depo Drift Deposits (I			I Rhizospheres on Livir e of Reduced Iron (C4)		Saturation Visible on Stunted or Stressed	= : : :	
Algal Mat or Cr			ron Reduction in Tilled		Geomorphic Position		
Iron Deposits (E			ck Surface (C7)		Shallow Aquitard (D3		
	ole on Aerial Imagery (B7		xplain in Remarks)		Microtopograpic Reli		
Sparsely Veget	tated Concave Surface (E	38)		_	FAC-Neutral Test (D	5)	
Field Observations	:						
Surface Water Prese	ent? Yes	No X Depth	(inches):				
Water Table Present	t? Yes	No X Depth	(inches):				
Saturation Present?	Yes	No X Depth	(inches):	Wetland Hydro	logy Present?	Yes No X	
(includes capillary fri	nge)	- —					
Describe Recorded I	Data (stream gauge, mor	nitoring well, aerial photos,	previous inspections),	if available:			
Remarks:							

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1				Number of Dominant Species That
2.				Are OBL, FACW, or FAC: 0 (A)
3				Total Number of Dominant Species
4				Across All Strata (B)
5				Percent of Dominant Species That
6				Are OBL, FACW, or FAC: 0% (A/B)
7				
		= Total Cover		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1				OBL species 0 x 1 = 0
2				FACW species 0 x 2 = 0
3				FAC species 0 x 3 = 0
4				FACU species 20 x 4 = 80
5				UPL species 30 x 5 = 150
6				Column Totals: 50 (A) 230 (B)
7				Prevalence Index = B/A = 4.60
		= Total Cover	•	
Herb Stratum (Plot size: 5 ft.)				
Centaurea stoebe	30	Yes	UPL	Hydrophytic Vegetation Indicators:
2. Poa pratensis	20	Yes	FACU	Rapid Test for Hydrophytic Vegetation
3				Dominance Test is >50%
4				Prevalence Index is ≤ 3.0 ¹
5				Morphological Adaptations ¹ (Provide supporting
6				data in Remarks or on a separate sheet)
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10				
11				
12				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in
14				diameter at breast height (DBH), regardless of height.
15				-
16				Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.
17				3.2.3.3.3.3.3.3.3.3.4 (· · · ·) (· · · ·)
18				Herb - All herbaceous (non-woody) plants, regardless
19				of size, and woody plants less than 3.28 ft tall.
20		= Total Cover		Manakasina Allamakasina makasina 0.00 (i.i.
Woody Vine Stratum (Plot size: 30 ft.)	50	= Total Cover		Woody vines - All woody vines greater than 3.28 ft in height.
1				Hydrophytic Vegetation Present ?
2				Trydrophytic Vegetation Frederic :
4.				Yes No X
<u> </u>		= Total Cover		
December (the believe the record of the control of		- 10tai 00vei		
Remarks: (Include photo numbers here or on a separate sheet.)				

Depth Matrix Redox Features (inches) Color (moist) % Color (moist) % Type Loc* Texture Remarks 0-2" 10YR 5/4 100 Sand Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. *Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: Histosol (A1) Stripped Matrix (S8) 2 cm Muck (A10) Histis: Epipedon (A2) Loarry Mucky Mineral (F1) Black Histis (A3) Loarry Mucky Mineral (F1) Stripted Matrix (F3) Hydrogen Sulfide (A4) Depleted Matrix (F3) Stratified Layers (A5) Redox Depressions (F8) Thin Dark Surface (S7) Thin Dark Surface (A11) Sandy Gleyed Matrix (S4) Sandy Mucky Mineral (S1) Sandy Mucky	nches) Color (moist) % Color (moist) % Type' Loc' Texture Remarks 0-2" 10YR 5/4 100 Sand per C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. 2Location: PL=Pore Lining, M=Matrix. dric Soil indicators: Indicators: Indicators for Problematic Hydric Soils': Histosol (A1) Stripped Matrix (S6) 2 cm Muck (A10) Loamy Mucky Mineral (F1) Cosast Prairie Redox (A16) 5 cm Mucky Peat or Peat (S3) Loamy Gleyed Matrix (F2) 5 cm Mucky Peat or Peat (S3) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) Polyvalue Below Surface (S7) Trin Dark Surface (S8) Trin Dark Surface (A11) Depleted Dark Surface (F7) Trin Dark Surface (S9) Iron-Manganese Masses (F12) Redox Dark Surface (F8) Peat (S4) Sandy Mucky Mineral (F1) Redox Cosast Prairie Redox (A16) Sandy Mucky Mineral (S1) Redox Depressions (F8) Iron-Manganese Masses (F12) Redox Depressions (F8) Iron-Manganese Masses (F12) Sandy Mucky Mineral (S1) Redox Depressions (F8) Other (Explain in Remarks) dicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. strictive Layer (if observed): Type: Gravel Depth (inches): 2" Hydric Soil Present? Yes No x		Matrix		Re	dox Featu	ıres				
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	Type: Gravel Depth (inches): 2" Hydric Soil Present? Yes No X			and wetlan	d hydrology must be p	resent, unle	ess disturbed	or problem	atic.		
	Type: Gravel Depth (inches): 2" Hydric Soil Present? Yes No X	3Indicators of	hydrophytic vegetation								
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Depth (inches): 2" Hydric Soil Present? Yes No		Restrictive La	ayer (if observed):								
Remarks:	marks:	Restrictive La	ayer (if observed): Gravel	"				Hydric So	il Present?	Yes	No <u>X</u>
		Restrictive La Type: C	ayer (if observed): Gravel	11				Hydric So	il Present?	Yes	No <u>X</u>
		Restrictive La	ayer (if observed): Gravel	п				Hydric So	il Present?	Yes	No <u>X</u>
		Restrictive La Type: <u>C</u> Depth (ii	ayer (if observed): Gravel	п				Hydric So	il Present?	Yes	No <u>X</u>
		Restrictive La Type: <u>C</u> Depth (ii	ayer (if observed): Gravel	11				Hydric So	il Present?	Yes	No <u>X</u>
		Restrictive La Type: <u>C</u> Depth (in	ayer (if observed): Gravel	п				Hydric So	il Present?	Yes	No <u>X</u>
		Restrictive La Type: <u>C</u> Depth (in	ayer (if observed): Gravel	п				Hydric So	il Present?	Yes	No <u>X</u>
		Restrictive La Type: <u>C</u> Depth (in	ayer (if observed): Gravel	п				Hydric So	il Present?	Yes	No X
		Restrictive La Type: <u>C</u> Depth (in	ayer (if observed): Gravel	п				Hydric So	il Present?	Yes	No X
		Restrictive La	ayer (if observed): Gravel	п				Hydric So	il Present?	Yes	No X
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		Restrictive La Type: <u>C</u> Depth (ii	ayer (if observed): Gravel	п				Hydric So	il Present?	Yes	No X

Project/Site:	Edenville Dam		City/0	County:	Midland Co.	Sampling Date:	3/15/2021
Applicant/Owner:	Four Lakes Task Force				State: M	Sampling Point:	dp15
Investigator(s):	E. Vander Stelt; B. Norris	i		Section, Townsh	ip, Range:	T16N, R01W, Section	01
Landform (hillslope, to	errace, etc.):	Sloug	h	Local	relief (concave, convex, no	one): concave	
Slope (%):)-1% Lat:	43.813706	Long:		-84.382934	Datum:	NAD83 HARN
Soil Map Unit Name:	Covert sand, loan	ny substratum, 0 to 6 p	ercent slopes		NWI	classification:	none
Are climatic / hydrolog	gic conditions on the site typ	ical for this time of yea	ır?	Yes X No	(If no, explain in Re	marks.)	
Are Vegetation	, Soil ,	or Hydrology	significantly disturbed	? Are "No	rmal Circumstances" prese	ent? Yes X	No
Are Vegetation	, Soil ,	or Hydrology	naturally problematic?	? (If need	ed, explain any answers in	Remarks.)	
SUMMARY OF	FINDINGS Attach				sects. important fea	itures. etc.	
					-		
Hydrophytic Vegetat		Yes X No		Is the Sampled Are		V Na	
Hydric Soil Present? Wetland Hydrology I		Yes X No		within a Wetland? If yes, optional Wetland		XNo	
	ain alternative procedures h			ii yee, optional vveti			
	ation analysis indicates cond			point location is a dit	tch wetland on the edge of	a two-track.	
HYDROLOGY							
Wetland Hydrology	/ Indicators:				Secondary Indicators	(minimum of two require	<u></u>
	minimum of one is required;	check all that apply)			Surface Soil Cr		
Surface Water	(A1)	X Water-	Stained Leaves (B9)	_	X Drainage Patte	rns (B10)	
X High Water Ta			Fauna (B13)		Moss Trim Line		
X Saturation (A3)			eposits (B15)		Dry-Season Wa		
Water Marks (I Sediment Depo			en Sulfide Odor (C1) ed Rhizospheres on L		Crayfish Burrov	/s (C8) lle on Aerial Imagery (C9	١
Drift Deposits (ce of Reduced Iron (ssed Plants (D1)	,
Algal Mat or Cr			Iron Reduction in Til		X Geomorphic Po	, ,	
Iron Deposits (uck Surface (C7)	, ,	Shallow Aquitar		
Inundation Visil	ble on Aerial Imagery (B7)	Other (Explain in Remarks)		Microtopograpio	Relief (D4)	
Sparsely Vege	tated Concave Surface (B8)				X FAC-Neutral Te	est (D5)	
Field Observations	S:						
Surface Water Pres	ent? Yes	No X Dept	n (inches):				
Water Table Presen	t? Yes X	No Dept	n (inches): 5"				
Saturation Present?	Yes X	No Dept	n (inches): 2"	Wetland	d Hydrology Present?	Yes X No	
(includes capillary fr	· ,						
Describe Recorded	Data (stream gauge, monito	oring well, aerial photos	s, previous inspection	s), if available:			
Demonstra							
Remarks:							

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1				Number of Dominant Species That
2				Are OBL, FACW, or FAC: 2 (A)
3				Total Number of Dominant Species Across All Strata (B)
5				Percent of Dominant Species That
6				Are OBL, FACW, or FAC:
7				
		= Total Cove	r	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)			Total % Cover of: Multiply by:
1				OBL species 35 x 1 = 35
2				FACW species 0 x 2 = 0
3				FAC species 0 x 3 = 0
4				FACU species 0 x 4 = 0
5				UPL species $0 \times 5 = 0$
6				Column Totals: 35 (A) 35 (B)
<i>i.</i>		= Total Cove		Prevalence Index = B/A = 1.00
Herb Stratum (Plot size: 5 ft.)		= Total Cove	ı	
1. Juncus effusus	15	Yes	OBL	Hydrophytic Vegetation Indicators:
Scirpus cyperinus	15	Yes	OBL	X Rapid Test for Hydrophytic Vegetation
3. Carex hystericina	5	No	OBL	X Dominance Test is >50%
4.				X Prevalence Index is ≤ 3.0¹
				Morphological Adaptations ¹ (Provide supporting
<u> </u>				data in Remarks or on a separate sheet)
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8.				
9.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10.				
11.				
12.				Definitions of Vegetation Strata:
13.				Tree - Woody plants 3 inches (7.6 cm) or more in
14				diameter at breast height (DBH), regardless of
15		-		height.
16				Sapling/shrub - Woody plants less than 3 inches
17				DBH and greater than 3.28 ft (1 m) tall.
18				Herb - All herbaceous (non-woody) plants, regardless
19				of size, and woody plants less than 3.28 ft tall.
20				
W. J. Vir. God.	35	= Total Cove	r	Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: 30 ft.)			
1				Hydrophytic Vegetation Present ?
2				Trydrophytic vegetation resent :
3				Yes x No
<u> </u>		= Total Cove		163
Demonstra (Inches of the control of		= 101010076	•	
Remarks: (Include photo numbers here or on a separate sheet.)				

Depth Matrix Redox Featur				dox Feat	ures					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks		
0-5"	10YR 5/2	60	10YR 4/6	40	С	M	Sandy Clay			
5-16"	10YR 5/4	90	10YR 6/6	10	С	М	Sand			
Type: C-Con	centration, D=Depletion	RM-Rec	uced Matrix MS-Mask	ed Sand G	rains ² l oca	ntion: PI -Po	re Lining M-Matrix			
lydric Soil Inc		, 1111-1100	doca Matrix, MC=Mask	ica cana c	Tail 10. Look		Indicators for Problem	natic Hydric Soils ³ :		
Histosol		_	Stripped Matrix (S	86)			2 cm Muck (A10	0)		
	ipedon (A2)	_	Loamy Mucky Mir				Coast Prairie Re			
Black His		_	Loamy Gleyed Ma				5 cm Mucky Pe			
	n Sulfide (A4) Layers (A5)	-	X Depleted Matrix (I Redox Dark Surfa				Dark Surface (S			
	l Below Dark Surface (- \11)	Depleted Dark Su				Thin Dark Surfa			
	rk Surface (A12)	· -	Redox Depressio				Iron-Manganese			
	lucky Mineral (S1)	_					Red Parent Mat			
	leyed Matrix (S4)							ark Surface (TF12)		
Sandy R	edox (S5)						Other (Explain in	n Remarks)		
Indicators of I	hydrophytic vegetation	and wetlar	nd hydrology must be p	resent, unle	ess disturbed	or problem	atic.			
estrictive La	yer (if observed):									
Tuno										
Depth (in	nches):					Hydric So	il Present?	Yes X No		
temarks:										

Project/Site:	Edenville Dam		(City/County:	Gladwi	n Co.	Sampling Date	e: 3/15/2021
Applicant/Owner:	Four Lakes Task Force					State: MI	Sampling Point	•
Investigator(s):	E. Vander Stelt; B. No			Soction	Township, Range:		T17N, R01W, Sectio	
			ula la	Section,				11 30
Landform (hillslope, to			lough .		,	cave, convex, non	·	
,	0-1% Lat:	43.814110	Lo	ong:	-84.38203		Datum:	NAD83 HARN
Soil Map Unit Name:		nd, 6 to 14 percent sl	•			NWI cla	assification:	none
Are climatic / hydrolog	gic conditions on the site	typical for this time of	f year?	Yes X	. No (If r	no, explain in Rem	arks.)	
Are Vegetation	, Soil	, or Hydrology	significantly distu	rbed?	Are "Normal Circu	ımstances" presen	t? Yes X	_No
Are Vegetation	, Soil	, or Hydrology	naturally problem	natic?	(If needed, explain	n any answers in R	emarks.)	
SUMMARY OF	FINDINGS Attack	h site map show	ing sampling p	oint location	s, transects, i	mportant feat	ures, etc.	
		-				•	•	
Hydrophytic Vegetat		Yes X	No	Is the Sam		V	.,	V
Hydric Soil Present?		Yes	No X	within a W		_	No	<u>x</u>
Wetland Hydrology I		Yes X	No	ii yes, optio	nal Wetland Site ID	<u> </u>		
, ,	ain alternative procedures ation analysis indicates co	•						
Antecedent precipita	alion analysis indicates co	oriditions are normal p	Del the WL13 table.					
HYDROLOGY								
Wetland Hydrology	v Indicators:				Seco	ondary Indicators (minimum of two requi	ired)
	minimum of one is require	ed; check all that app	ıly)			Surface Soil Crac		
Surface Water			ater-Stained Leaves	(B9)	X	- Drainage Pattern		
X High Water Ta	ible (A2)	Aq	uatic Fauna (B13)			Moss Trim Lines	(B16)	
X Saturation (A3))	Ma	arl Deposits (B15)			Dry-Season Wate	er Table (C2)	
Water Marks (I	B1)		drogen Sulfide Odor			Crayfish Burrows		
Sediment Depo			idized Rhizospheres	_	(C3)	-	on Aerial Imagery (C	;9)
Drift Deposits (esence of Reduced I		. 	Stunted or Stress		
Algal Mat or Cr			ecent Iron Reduction		6) <u>X</u>	Geomorphic Pos		
Iron Deposits (•		in Muck Surface (C7) her (Explain in Rema		-	Shallow Aquitard		
	ible on Aerial Imagery (B7 etated Concave Surface (I		nei (Expiain in Rema	irks)		Microtopograpic FAC-Neutral Tes		
	,					- TAO Neutrai 103	(03)	
Field Observations								
Surface Water Pres			Depth (inches):					
Water Table Presen	-		Depth (inches): 12	-				
Saturation Present?	Yes X	No [Depth (inches): 4"		Wetland Hydrolo	gy Present?	Yes X No	·
(includes capillary fr								
Describe Recorded	Data (stream gauge, mo	nitoring well, aerial ph	notos, previous inspe	ections), if availab	ole:			
Remarks:								

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1				Number of Dominant Species That
2				Are OBL, FACW, or FAC: 2 (A)
3				Total Number of Dominant Species
4				Across All Strata 2 (B)
5				Percent of Dominant Species That
6				Are OBL, FACW, or FAC:
7				
		= Total Cover	•	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1				OBL species25 x 1 =25
2				FACW species0 x 2 =0
3				FAC species17
4				FACU species 0 x 4 = 0
5				UPL species0 x 5 =0
6				Column Totals: <u>42</u> (A) <u>76</u> (B)
7				Prevalence Index = B/A = 1.81
		= Total Cover	•	
Herb Stratum (Plot size: 5 ft.)		.,		Hardward off a Manager Control Part and
1. Carex hystericina	15	Yes	OBL	Hydrophytic Vegetation Indicators:
2. Typha X glauca	5	No No	OBL	Rapid Test for Hydrophytic Vegetation
3. Scirpus cyperinus	5	No No	OBL	X Dominance Test is >50%
4. Symphyotrichum lateriflorum	2	No No	FAC	Y Prevalence Index is ≤ 3.01
5. Panicum capillare	15	<u>Yes</u>	FAC	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6				
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9.				be present, unless disturbed or problematic.
10.				
11				Definitions of Vegetation Strata:
-				_
13 14				Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of
15				height.
16				Sapling/shrub - Woody plants less than 3 inches
47				DBH and greater than 3.28 ft (1 m) tall.
40				
40				Herb - All herbaceous (non-woody) plants, regardless
20				of size, and woody plants less than 3.28 ft tall.
	42	= Total Cover		Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.)				height.
1				
2.				Hydrophytic Vegetation Present ?
3.				
4.				Yes x No
		= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				
(1111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111 111				

Profile Descr	iption: (Describe to th	ne depth n	eeded to document th	ne indicato	r or confirm	the absence	ce of indicators.)					
Depth	Matrix			dox Feat	4	 						
(inches)	Color (moist)	%	Color (moist)	%	Type'	Loc ²	Texture	Re	emarks			
0-2"	10YR 3/2	100					Sand	gravel	inclusions			
2-6"	10YR 5/4	90	10YR 5/8	10	C	M	Sand	coar	rse sand			
6-18"	5YR 5/4	80					Clay					
	5GY 7/1	20										
								,				
				-								
¹ Type: C=Con	centration, D=Depletion	n, RM=Red	luced Matrix, MS=MasI	ked Sand G	Grains. ² Loca	ation: PL=Po	re Lining, M=Matrix.					
Hydric Soil In							Indicators for Prob	lematic Hydric	Soils ³ :			
Histosol		_	Stripped Matrix (S				2 cm Muck (
	oipedon (A2) istic (A3)	_	Loamy Mucky Min Loamy Gleyed M				Coast Prairie Redox (A16) 5 cm Mucky Peat or Peat (S3)					
	en Sulfide (A4)	_	Depleted Matrix (Dark Surface		,			
	d Layers (A5)	_	Redox Dark Surfa					elow Surface (S8)			
	d Below Dark Surface (A11) _	Depleted Dark Su				Thin Dark Su		0)			
	ark Surface (A12)	_	Redox Depression	ons (F8)		Iron-Manganese Masses (F12) Red Parent Material (F21)						
	Mucky Mineral (S1) Bleyed Matrix (S4)					Very Shallow Dark Surface (TF12)						
	Redox (S5)							in in Remarks)	,			
3Indicators of	hydrophytic vegetation	and wetlar	nd hydrology must be p	oresent, unl	ess disturbed	d or problem	atic.					
Restrictive La	ayer (if observed):											
						Usadeia Ca	il Present?	Vaa	No. V			
Depth (i	ncnes):					Hydric So	ii Present?	Yes	. No <u>X</u>			
Remarks:												
Qualifies for h	ydric soil indicator: Higl	h Chroma S	3ands (S11)									

Project/Site:	Edenville Dam			City/County:	G	ladwin Co.	Sar	mpling Date:	3/15/2021
Applicant/Owner:	Four Lakes Task Force	ı				State: M	I Sar	mpling Point:	dp17
Investigator(s):	E. Vander Stelt; B. Nori	ris		Section	, Township, R	ange:	T17N, R0	01W, Section 36	6
Landform (hillslope, te	errace, etc.):		Shoulder		Local relief	(concave, convex, no	one): conve	х	
Slope (%):	1% Lat:	43.814	138	Long:	-84.3	882095		Datum: N	AD83 HARN
Soil Map Unit Name:	Menominee san	d, 6 to 14 percer	nt slopes			NWI	 classification	n:	none
Are climatic / hydrolog	gic conditions on the site t	ypical for this tim	e of year?	Yes X	No	(If no, explain in Rer	marks.)		
Are Vegetation			significantly	disturbed?	Are "Normal	Circumstances" prese		Yes X N	0
Are Vegetation		, or Hydrology				xplain any answers in			
	FINDINGS Attach	•			•		,	rc.	
						,, portain 100			
Hydrophytic Vegetati		Yes	NoX		pled Area	.,			
Hydric Soil Present? Wetland Hydrology F		Yes X Yes	No	within a W	/etland? onal Wetland \$			No X	_
				ii yes, optii	onal Welland				
	ain alternative procedures ation analysis indicates co			ble.					
	,								
HYDROLOGY									
Wetland Hydrology	, Indicators					Secondary Indicators	/minimum	of two required	\
	minimum of one is require	d: check all that :	annly)			Surface Soil Cra	`	or two required	<u>)</u>
Surface Water		a, oncon an inar	Water-Stained Lea	ves (B9)		Drainage Patter			
High Water Tab			Aquatic Fauna (B1			Moss Trim Line			
Saturation (A3)			Marl Deposits (B15	5)		Dry-Season Wa	ater Table (0	C2)	
Water Marks (E			Hydrogen Sulfide C			Crayfish Burrow			
Sediment Depo			•	eres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)					
Drift Deposits (•		Presence of Reduc						
Algal Mat or Cruin Iron Deposits (8			Thin Muck Surface	tion in Tilled Soils (C	·b)	Geomorphic Po Shallow Aquitar			
	bb) ble on Aerial Imagery (B7)		Other (Explain in R			Microtopograpio)	
	tated Concave Surface (B			,		FAC-Neutral Te		,	
Field Observations									
Surface Water Prese	ent? Yes	No X	Depth (inches):						
Water Table Present	t? Yes	No X	Depth (inches):						
Saturation Present?	Yes	No X	Depth (inches):		Wetland Hy	drology Present?	Yes	No	Χ
(includes capillary fri	nge)		•				-		
Describe Recorded I	Data (stream gauge, mon	itoring well, aeria	al photos, previous in	nspections), if availa	ble:				
Remarks:									

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1				Number of Dominant Species That
2.				Are OBL, FACW, or FAC: 0 (A)
3				Total Number of Dominant Species
4				Across All Strata 2 (B)
5				Percent of Dominant Species That
6				Are OBL, FACW, or FAC: 0% (A/B)
7				
		= Total Cove	r	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1				OBL species 0 x 1 = 0
2				FACW species 0 x 2 = 0
3				FAC species 0 x 3 = 0
4				FACU species 35 x 4 = 140
5				UPL species 52 x 5 = 260
6				Column Totals: <u>87</u> (A) <u>400</u> (B)
7				Prevalence Index = B/A = 4.60
		= Total Cove	r	
Herb Stratum (Plot size: 5 ft.)				
1. Daucus carota	10	No	UPL	Hydrophytic Vegetation Indicators:
2. Centaurea stoebe	40	Yes	UPL	Rapid Test for Hydrophytic Vegetation
3. Setaria faberi	25	Yes	FACU	Dominance Test is >50%
4. Oenothera biennis	5	No	FACU	Prevalence Index is ≤ 3.0¹
5. Achillea millefolium	5	No No	FACU	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6. Hypericum perforatum	2	<u>No</u>	UPL	
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8		-		¹ Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10.				
11.				Definitions of Vegetation Strate.
12.				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of
14 15				height.
16				Sapling/shrub - Woody plants less than 3 inches
47				DBH and greater than 3.28 ft (1 m) tall.
40				
40				Herb - All herbaceous (non-woody) plants, regardless
20				of size, and woody plants less than 3.28 ft tall.
	87	= Total Cove	r	Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.)				height.
1				
2.				Hydrophytic Vegetation Present ?
3.				
4.				Yes No X
		= Total Cove	r	<u> </u>
Remarks: (Include photo numbers here or on a separate sheet.)				
(1111)				

Depth	Matrix	Red	dox Feat	ures							
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks			
0-4"	10YR 3/1	100					Sandy Loam				
4-18"	10YR 3/2	85	10YR 3/6	15		M	Sand				
4-10	1011(3/2		10110 3/0			101	Sanu				
					·						
_											
Гуре: C=Con	centration, D=Depletior	n, RM=Red	uced Matrix, MS=Mask	ed Sand G	rains. ² Loca	ition: PL=Po	re Lining, M=Matrix.				
ydric Soil In	dicators:						Indicators for Problem	natic Hydric Soils ³ :			
Histosol		_	Stripped Matrix (S				2 cm Muck (A10				
	pipedon (A2)	_	Loamy Mucky Mir			Coast Prairie Redox (A16) 5 cm Mucky Peat or Peat (S3)					
Black His	stic (A3) n Sulfide (A4)	_	Loamy Gleyed Matrix (Dark Surface (S				
	Layers (A5)	_	Redox Dark Surfa			Polyvalue Below Surface (S8)					
	d Below Dark Surface (A11)	Depleted Dark Su			Thin Dark Surface (S9)					
Thick Da	ark Surface (A12)	_	Redox Depressio	ns (F8)		Iron-Manganese Masses (F12)					
Sandy M	lucky Mineral (S1)	_					Red Parent Mate				
	Gleyed Matrix (S4)							rk Surface (TF12)			
X Sandy R	ledox (S5)						Other (Explain in	n Remarks)			
Indicators of	hydrophytic vegetation	and wetlan	nd hydrology must be p	resent, unle	ess disturbed	d or problem	atic.				
Restrictive La	ayer (if observed):										
Type: _											
Depth (ir	nches):					Hydric Soil Present? Yes X No					
Remarks:											

Project/Site:	Edenville Dam			City/County:		Gladwin Co.	S	sampling Date: _	3/16/2021		
Applicant/Owner:	Four Lakes Task For	rce				State:	MI S	ampling Point: _	dp18		
Investigator(s):	E. Vander Stelt; B. N	lorris		Sec	ction, Township, F	Range:	T17N, F	R01W, Section 3	36		
Landform (hillslope, te	rrace, etc.):		Backslope		Local relie	ef (concave, conv	/ex, none): conv	/ex			
Slope (%): 5-	-7% Lat:	43.814	1097	Long:	-84.	.381538		Datum: 1	NAD83 HARN		
Soil Map Unit Name:	Menominee s	sand, 6 to 14 perce	ent slopes				NWI classification	on:	none		
Are climatic / hydrolog	gic conditions on the sit	te typical for this tin	ne of year?	Yes_	X No	(If no, explain	in Remarks.)				
Are Vegetation	, Soil	, or Hydrology	significantly	disturbed?	Are "Norma	al Circumstances	" present?	Yes X	No		
Are Vegetation	, Soil	, or Hydrology	naturally pro	blematic?	(If needed,	explain any answ	ers in Remarks.	.)			
SUMMARY OF I	FINDINGS Attac	 ch site map sh	nowing samplir	ng point loca	tions, transe	cts, importai	nt features, e	etc.			
				1		•					
Hydrophytic Vegetati Hydric Soil Present?		Yes X Yes X	No No	-	Sampled Area a Wetland?		Yes X	No			
Wetland Hydrology P		Yes X	No	-	optional Wetland	Site ID:	162 7	No			
	ain alternative procedur			. , , , ,	opiiona. Tronana						
	tion analysis indicates			able.							
	·		•								
HYDROLOGY											
Wetland Hydrology		Sandon bandon II dans					cators (minimun		<u>d)</u>		
X Surface Water	ninimum of one is requ	uired; check all that X	apply) Water-Stained Lea	aves (RQ)			Soil Cracks (B6)				
X High Water Tab			Aquatic Fauna (B1				Drainage Patterns (B10) Moss Trim Lines (B16)				
X Saturation (A3)			Marl Deposits (B1			Dry-Season Water Table (C2)					
Water Marks (B	31)		Hydrogen Sulfide (Odor (C1)		Burrows (C8)					
Sediment Depo	sits (B2)			heres on Living Roots (C3) Saturation Visible on Aerial Imag)		
Drift Deposits (F			Presence of Redu								
Algal Mat or Cru				uction in Tilled Soils (C6) Geomorphic Position (D2)							
Iron Deposits (E			_ Thin Muck Surface	, ,	<u> </u>						
	ole on Aerial Imagery (E ated Concave Surface		Other (Explain in R	kemarks)			ograpic Relier (D itral Test (D5)	¹⁴)			
Field Observations:											
Surface Water Prese		(No	Depth (inches):	surface							
Water Table Present	-		Depth (inches):	surface	-						
Saturation Present?	Yes X		Depth (inches):	surface	- Wetland Hy	ydrology Preser	nt? Yes	X No			
(includes capillary frin				Surrace	-	yarology i reser					
	Data (stream gauge, m	nonitoring well, aeri	al photos, previous	inspections), if a	/ailable:						
	, , ,										
Remarks:											

	Absolute	Dominant	Indicator	
<u>Tree Stratum</u> (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1. Fraxinus pennsylvanica	10	Yes	FACW	Number of Descinent County That
2. Thuja occidentalis	10	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
3.				··
4.				Total Number of Dominant Species Across All Strata 2 (B)
5.				\`,
6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)
7.				100 / (ND)
· .	20	= Total Cove		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)		- 10tal 00vo	•	Total % Cover of: Multiply by:
,				
1				<u> </u>
2				· — —
3				FACULTURE
4				FACU species 0 x 4 = 0
5				UPL species 0 x 5 = 0
6				Column Totals: 20 (A) 40 (B)
7		T / 10		Prevalence Index = B/A = 2.00
		= Total Cove	r	
Herb Stratum (Plot size: 5 ft.)				Huduanhutia Vanatatian Indiaatana
1				Hydrophytic Vegetation Indicators:
2				X Rapid Test for Hydrophytic Vegetation
3				X Dominance Test is >50%
4				X Prevalence Index is ≤ 3.0 ¹
5				Morphological Adaptations ¹ (Provide supporting
6				data in Remarks or on a separate sheet)
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10				
11				
12				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in
14				diameter at breast height (DBH), regardless of
15				height.
16				Sapling/shrub - Woody plants less than 3 inches
17				DBH and greater than 3.28 ft (1 m) tall.
18				Harb All barbassaus (non weedy) plants, regardless
19				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
20				
		= Total Cove	r	Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.)				height.
1				
2.				Hydrophytic Vegetation Present?
3.				
4.				Yes x No
		= Total Cove	r	
Remarks: (Include photo numbers here or on a separate sheet.)				
Tromano. (molado prioto namboro noto di una deparato dilect.)				

Depth Matrix Redox Feature			ures					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-7"	10YR 2/1	100					Mucky Sand	
7-10"	10YR 5/2	100					Sand	
							<u> </u>	
								
								
							 -	
Type: C=Cor	ncentration, D=Depletion	n RM-Red	uced Matrix MS-Mask	ed Sand G	rains ² l oca	ntion: PI =Po	re Lining M-Matrix	
lydric Soil Ir		ii, itivi–itoo	acca matrix, mc=macr	ca cana c	Tail 10. Look			ematic Hydric Soils ³ :
Histosol			Stripped Matrix (S	66)			2 cm Muck (A	10)
	pipedon (A2)	_	Loamy Mucky Mir				Coast Prairie	
	istic (A3)	_	Loamy Gleyed Ma					Peat or Peat (S3)
	en Sulfide (A4) d Layers (A5)	_	Depleted Matrix (F Redox Dark Surfa				Dark Surface	(S7) low Surface (S8)
	d Below Dark Surface ((A11)	Depleted Dark Su				Thin Dark Su	
	ark Surface (A12)	`	Redox Depression					ese Masses (F12)
	Mucky Mineral (S1)						Red Parent N	
	Gleyed Matrix (S4)							Dark Surface (TF12)
Sandy F	Redox (S5)						Other (Explai	n in Remarks)
Indicators of	hydrophytic vegetation	and wetlan	d hydrology must be pr	resent, unle	ess disturbed	d or problem	atic.	
Restrictive L	ayer (if observed):							
T	Gravel							
Type: 0								
Depth (i		0"				l	il Present?	Yes X No

Project/Site:	Edenville Dam		City/County:	Gladwin C	0.	Sampling Date:	3/16/2021
Applicant/Owner:	Four Lakes Task Force				State: MI	Sampling Point:	dp19
Investigator(s):	E. Vander Stelt; B. Norr		Section	n, Township, Range:		N, R01W, Section 36	·
Landform (hillslope, te		Backslope					
`		· · · · · · · · · · · · · · · · · · ·	Longi	Local relief (concav	e, convex, none). <u>c</u>		ND02 HADNI
,	i-7% Lat:	43.814347	Long:	-84.381432	NA/L -1 'C'		AD83 HARN
Soil Map Unit Name:		d, 6 to 14 percent slopes			NWI classifi		none
, ,	•	ypical for this time of year?	Yes X		explain in Remarks		
Are Vegetation		, or Hydrologysignific		Are "Normal Circums	tances" present?	Yes X No)
Are Vegetation	, Soil	, or Hydrologynatura	lly problematic?	(If needed, explain an	y answers in Rema	rks.)	
SUMMARY OF	FINDINGS Attach	site map showing sar	npling point locatio	ns, transects, imp	ortant feature	s, etc.	
Lludrophytic Vocatet	ion Dragant?	Van V Na	lo the Cor	unlad Area			
Hydrophytic Vegetati Hydric Soil Present?		Yes X No No No	X within a \	npled Area	Yes	No X	
Wetland Hydrology F				onal Wetland Site ID:	100		-
		here or in a separate report.)	,,,,,,		-		
\ '	·	nditions are normal per the WI	ETS table.				
	•	·					
HYDROLOGY							
IIIDROLOGI							
Wetland Hydrology	Indicators:			Seconda	ary Indicators (minir	mum of two required)	
Primary Indicators (r	minimum of one is require	d; check all that apply)		Su	rface Soil Cracks (B6)	
Surface Water	(A1)		ed Leaves (B9)		ainage Patterns (B		
High Water Tab		Aquatic Fau			oss Trim Lines (B16		
Saturation (A3)		Marl Deposit			y-Season Water Ta		
Water Marks (E			ulfide Odor (C1)		ayfish Burrows (C8		
Sediment Depo			zospheres on Living Root	` '		Aerial Imagery (C9)	
Drift Deposits (Reduced Iron (C4)		unted or Stressed F		
Algal Mat or Cr		Thin Muck S	Reduction in Tilled Soils (0		eomorphic Position	` '	
Iron Deposits (E	bb) ble on Aerial Imagery (B7)		in in Remarks)		allow Aquitard (D3) crotopograpic Relie		
	tated Concave Surface (B		in in remarks)		.C-Neutral Test (D5		
	•	,					
Field Observations Surface Water Prese		No V Donth (incl					
		No X Depth (incl					
Water Table Present		No X Depth (incl		l			.,
Saturation Present?	Yes	No X Depth (incl	nes):	Wetland Hydrology	Present?	res No	<u>x</u>
(includes capillary fri	<u> </u>	Stade and the second		.f. L.			
Describe Recorded I	Data (stream gauge, mon	itoring well, aerial photos, pre	vious inspections), if availa	able:			
Remarks:							

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1. Betula papyrifera	15	Yes	FACU	Number of Dominant Species That
2. Thuja occidentalis	15	Yes	FACW	Are OBL, FACW, or FAC: 3 (A)
3. Fraxinus pennsylvanica	15	Yes	FACW	Total Number of Dominant Species
4. Populus grandidentata	5	No	FACU	Across All Strata 5 (B)
5.				Percent of Dominant Species That
6.				Are OBL, FACW, or FAC:60% (A/B)
7.				
	50	= Total Cover		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1.				OBL species 0 x 1 = 0
2.				FACW species 30 x 2 = 60
3.				FAC species 10 x 3 = 30
4.				FACU species 30 x 4 = 120
5.				UPL species 0 x 5 = 0
6.				Column Totals: 70 (A) 210 (B)
7.				Prevalence Index = B/A = 3.00
		= Total Cover		
Herb Stratum (Plot size: 5 ft.)				
1. Symphyotrichum lateriflorum	10	Yes	FAC	Hydrophytic Vegetation Indicators:
Dactylis glomerata	10	Yes	FACU	Rapid Test for Hydrophytic Vegetation
3.				X Dominance Test is >50%
4.				X Prevalence Index is ≤ 3.0 ¹
5.				Morphological Adaptations ¹ (Provide supporting
6.				data in Remarks or on a separate sheet)
7.				Problematic Hydrophytic Vegetation ¹ (Explain)
8.				
9.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10.				so process, amone alotal sea of prosidinatio.
12				Definitions of Vegetation Strata:
12				_
				Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of
45				height.
46				Sapling/shrub - Woody plants less than 3 inches
17				DBH and greater than 3.28 ft (1 m) tall.
40				
40				Herb - All herbaceous (non-woody) plants, regardless
20				of size, and woody plants less than 3.28 ft tall.
	20	= Total Cover		Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.)		- 10tal 00101		height.
1				
2.				Hydrophytic Vegetation Present ?
3.				Trydrophytio vegetation recent .
4.				Yes x No
		= Total Cover		163 <u>X</u> 110
		= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				

Depth	ription: (Describe to the Matrix	sopui il		dox Feat		463611				
(inches)	Color (moist)	%	Color (moist)	<u>uux real</u> %	Type ¹	Loc ²	Texture	Re	emarks	
0-8"	10YR 2/1	100					Sandy Clay Loam			
8-18"	10YR 5/3	100								
0-10	1011 3/3	100					Sand			
	ncentration, D=Depletio	n, RM=Red	uced Matrix, MS=Mask	ked Sand G	rains. ² Loca	ation: PL=P				
Hydric Soil Ir			Oleks a stall Markets //	20)			Indicators for Prob	-	Soils":	
Histosol	r (A1) pipedon (A2)	_	Stripped Matrix (S Loamy Mucky Mi				2 cm Muck (/	A10) Redox (A16)		
Black Histic (A3) Loamy Gleyed Matrix (F2)					5 cm Mucky Peat or Peat (S3)					
	Hydrogen Sulfide (A4) Depleted Matrix (F3)						Dark Surface			
	d Layers (A5)		Redox Dark Surfa					elow Surface (S8	3)	
	d Below Dark Surface (ark Surface (A12)	(A11) <u> </u>	Depleted Dark Su Redox Depression				Thin Dark Su	irrace (S9) ese Masses (F1	2)	
	Mucky Mineral (S1)	_		(1. 0)				Material (F21)	_,	
	Gleyed Matrix (S4)							Dark Surface (TF12)	
Sandy F	Redox (S5)						Other (Explain	in in Remarks)		
3Indicators of	hydrophytic vegetation	and wetlan	ıd hydrology must be p	resent, unl	ess disturbed	d or problen	natic.			
Restrictive L	ayer (if observed):									
Type										
_										
Depth (i	nches):					Hydric S	oil Present?	Yes	NoX	
Remarks:										

Project/Site:	Edenville Da	m			City/C	ounty:	Gladwin Co.		Sampling D)ate:	3/16/2021
Applicant/Owner:	Four Lakes	rask Force					St	tate: MI	Sampling P	oint:	dp20
Investigator(s):	E. Vander St	elt; B. Norris				Section, Town	nship, Range:	-	T17N, R01W, Se	ction 36	
Landform (hillslope, t	terrace, etc.):			Backslope		Loc	cal relief (concave,	convex, none	e): concave		
Slope (%):	3-5% L	_at:	43.814	332	Long:		-84.381289		Datum:	NAI	D83 HARN
Soil Map Unit Name:	: Meno	minee sand,	6 to 14 perce	nt slopes				NWI clas	ssification:		none
Are climatic / hydrolo	ogic conditions o	n the site typ	ical for this tim	ne of year?		Yes X No	(If no, ex	plain in Rema	rks.)		
Are Vegetation	, Soil	,	or Hydrology	significantly	disturbed?	Are "	Normal Circumsta	nces" present	? Yes _	X No	
Are Vegetation	, Soil	, ,	or Hydrology	naturally pro	blematic?	(If ne	eded, explain any	answers in Re	emarks.)		
SUMMARY OF	FINDINGS -	- Attach s	ite map sh	owing samplir	ng point	locations, tr	ansects, impo	rtant featu	ıres, etc.		
Lludraphytia Vagata	ation Dragont?		Vaa V	No	Ι.	o the Compled	1				
Hydrophytic Vegeta Hydric Soil Present			Yes X Yes X	No No	-	s the Sampled A		Yes	X No		
Wetland Hydrology			Yes X	No No	-	f yes, optional W					
Remarks: (Exp	olain alternative p	procedures he	ere or in a sep	arate report.)				-			
Antecedent precipit			•		able.						
HYDROLOGY											
Wetland Hydrolog	gy Indicators:						Secondary	/ Indicators (m	ninimum of two re	equired)	
Primary Indicators (e is required;	check all that	apply)				ace Soil Crack		· · · ·	_
X Surface Water	er (A1)		X	Water-Stained Lea	aves (B9)		X Draii	nage Patterns	(B10)		
X High Water Ta				_Aquatic Fauna (B1				s Trim Lines (
X Saturation (A3				_Marl Deposits (B1				Season Wate			
Water Marks (_ Hydrogen Sulfide		via a Da eta (C2)		fish Burrows ((CO)	
Sediment Dep Drift Deposits				Oxidized Rhizosph Presence of Redu					on Aerial Imagery ed Plants (D1)	y (C9)	
Algal Mat or C				Recent Iron Reduce				morphic Posit			
Iron Deposits			-	Thin Muck Surface		54 CO115 (CO)		low Aquitard (
	sible on Aerial Im	agery (B7)		Other (Explain in F				otopograpic R			
Sparsely Vege	etated Concave	Surface (B8)		_			FAC	-Neutral Test	(D5)		
Field Observation	ns:									-	
Surface Water Pres	sent?	Yes X	No	Depth (inches):	1"						
Water Table Preser	ent?	res X	No	Depth (inches):	surface						
Saturation Present?	? \	res X	No	Depth (inches):	surface	Wetl	and Hydrology Pr	esent?	Yes X	No	
(includes capillary f	fringe)			-						-	
Describe Recorded		auge, monito	oring well, aeria	al photos, previous	inspections	s), if available:					
Remarks:											

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1				Number of Dominant Species That
2				Are OBL, FACW, or FAC: 1 (A)
3				Total Number of Dominant Species
4				Across All Strata 1 (B)
5				Percent of Dominant Species That
6				Are OBL, FACW, or FAC:
7				
		= Total Cover		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1				OBL species0 x 1 =0
2				FACW species 0 x 2 = 0
3				FAC species5 x 3 =15
4				FACU species0 x 4 =0
5				UPL species0 x 5 =0
6				Column Totals: <u>5</u> (A) <u>15</u> (B)
7				Prevalence Index = B/A = 3.00
		= Total Cover	•	
Herb Stratum (Plot size: 5 ft.)	_	.,		Harland of Manager to Parts
Symphyotrichum lateriflorum	5	Yes	FAC	Hydrophytic Vegetation Indicators:
2				Rapid Test for Hydrophytic Vegetation
3				X Dominance Test is >50%
4				X Prevalence Index is ≤ 3.0¹
5				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6				
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9.				be present, unless disturbed or problematic.
10.				
11				Definitions of Vegetation Strata:
				_
13 14				Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of
15				height.
16				Sapling/shrub - Woody plants less than 3 inches
47				DBH and greater than 3.28 ft (1 m) tall.
40				
19				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
20				of size, and woody plants less than 3.26 it tall.
	5	= Total Cover		Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.)				height.
1				
2.				Hydrophytic Vegetation Present ?
3.				
4.				Yes x No
		= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				<u> </u>
, , , , , , , , , , , , , , , , , , , ,				

Profile Description: (Describe to the depth needed to document the indicator or con Depth Matrix Redox Features						uic auseil	o indicators.)	
(inches)	Color (moist)	%	Color (moist)	% %	Type ¹	Loc ²	Texture	Remarks
0-1"	10YR 2/1	100					Mucky Peat	
1-3"	10YR 2/1	100					Mucky Sand	
3-8"	10YR 2/1	70	10YR 5/2	30	CS		Mucky Sand	
3-0	1011(2/1	70	10110 3/2			IVI	Mucky Sand	
	centration, D=Depletion	n, RM=Red	uced Matrix, MS=Mask	ed Sand G	Grains. ² Loca	tion: PL=Po		
Hydric Soil Ir			Outron of Martin (O	0)				blematic Hydric Soils ³ :
Histosol X Histic E	(A1) pipedon (A2)	_	Stripped Matrix (S Loamy Mucky Min				2 cm Muck	(A10) e Redox (A16)
	istic (A3)	_	Loamy Gleyed Ma					Peat or Peat (S3)
	en Sulfide (A4)	_	Depleted Matrix (F				Dark Surfac	
	d Layers (A5) d Below Dark Surface (A11)	Redox Dark Surfa Depleted Dark Su				Polyvalue B Thin Dark S	elow Surface (S8)
	ark Surface (A12)	_	Redox Depression					nese Masses (F12)
	Mucky Mineral (S1)	_						Material (F21)
	Gleyed Matrix (S4)							w Dark Surface (TF12)
Sandy F	Redox (S5)						Other (Explo	ain in Remarks)
Ola dia ataua af	hdua.ahtia		d bdeala				-4:-	
	hydrophytic vegetation	and wellan	a nyarology must be pr	esent, uni	ess disturbed	or problem	auc.	
Restrictive L	ayer (if observed):							
Type: _(Gravel							
Depth (i	nches): 8	"				Hydric So	il Present?	Yes X No
Remarks:								

Project/Site:	Edenville Dam		City/County:	Midland Co.	Sampling Date: 3/15/2021
Applicant/Owner:	Four Lakes Task Fo	rce		State: MI	Sampling Point: dp21
Investigator(s):	E. Vander Stelt; B. N	Norris	Section, Tow	nship, Range:	16N, R01W, Section 01
Landform (hillslope, te		Toeslope		ocal relief (concave, convex, none	
Slope (%):	5% Lat:	43.813186	Long:	-84.381850	Datum: NAD83 HARN
Soil Map Unit Name:	Sloan loam			NWI clas	sification: none
Are climatic / hydrolog	ic conditions on the si	te typical for this time of year?	Yes X N	lo (If no, explain in Rema	rks.)
Are Vegetation	, Soil	, or Hydrology signif	icantly disturbed? Are	"Normal Circumstances" present	? Yes No X
Are Vegetation	X , Soil	, or Hydrology natura	ally problematic? (If n	eeded, explain any answers in Re	marks.)
SUMMARY OF F	FINDINGS Atta	ch site map showing sa	mpling point locations, t	ransects, important featu	res, etc.
Hydrophytic Vegetati	on Present?	Yes X No	Is the Sampled	Δτορ	
Hydric Soil Present?	on resent.	Yes X No	within a Wetlan		X No
Wetland Hydrology P	resent?	Yes X No	If yes, optional V	Vetland Site ID:	
Remarks: (Expla	in alternative procedu	res here or in a separate report.)			
Antecedent precipitat	tion analysis indicates	conditions are normal per the W	ETS table.		
HYDROLOGY					
Wetland Hydrology	Indicators:			Secondary Indicators (m	inimum of two required)
		uired; check all that apply)		Surface Soil Crack	
Surface Water (ed Leaves (B9)	X Drainage Patterns	
X High Water Tab	ole (A2)	Aquatic Fau		Moss Trim Lines (I	•
X Saturation (A3)	14)	Marl Deposi		Dry-Season Water	
Water Marks (B Sediment Depo			ulfide Odor (C1) nizospheres on Living Roots (C3)	Crayfish Burrows (on Aerial Imagery (C9)
Drift Deposits (E			Reduced Iron (C4)	Stunted or Stresse	
Algal Mat or Cru			Reduction in Tilled Soils (C6)	Geomorphic Positi	
Iron Deposits (E			Surface (C7)	Shallow Aquitard (
	le on Aerial Imagery (ain in Remarks)	Microtopograpic R	
	ated Concave Surface		,	FAC-Neutral Test	
Field Observations:					
Surface Water Prese		No X Depth (inc	ches):		
Water Table Present			·		
Saturation Present?	Yes X	 · · ·	· -	land Hydrology Present?	Yes X No
(includes capillary frin				,	
		nonitoring well, aerial photos, pre	evious inspections), if available:		
Remarks:					
Tromanio.					

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1				Number of Dominant Species That
2.				Are OBL, FACW, or FAC: 0 (A)
3				Total Number of Dominant Species
4				Across All Strata 0 (B)
5				Percent of Dominant Species That
6				Are OBL, FACW, or FAC: 0% (A/B)
7				
		= Total Cove	r	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1				OBL species 0 x 1 = 0
2				FACW species 0 x 2 = 0
3				FAC species 0 x 3 = 0
4				FACU species 0 x 4 = 0
5				UPL species 0 x 5 = 0
6				Column Totals: 0 (A) 0 (B)
7				Prevalence Index = B/A = 0.00
		= Total Cove	r	
Herb Stratum (Plot size: 5 ft.)				
1				Hydrophytic Vegetation Indicators:
2				Rapid Test for Hydrophytic Vegetation
3				Dominance Test is >50%
4				Prevalence Index is ≤ 3.0 ¹
5				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6				
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10 11.				
12				Definitions of Vegetation Strata:
12				_
				Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of
45				height.
16				Sapling/shrub - Woody plants less than 3 inches
47				DBH and greater than 3.28 ft (1 m) tall.
18				
19				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
20				or size, and woody plants less than 3.20 it tall.
		= Total Cove	r	Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.)				height.
1				
2.				Hydrophytic Vegetation Present ?
3.				
4.				Yes No_X_
		= Total Cove	r	_ _
Remarks: (Include photo numbers here or on a separate sheet.)				
Sparsely vegetated concave surface with no vegetation				

Profile Descr	iption: (Describe to th	e depth ne	eded to document th	ne indicato	r or confirm	the absence	ce of indicators.)	
Depth	Matrix		Re	dox Feat	ures			
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks
0-1"	10YR 5/1	100					Sand	
1-5"	10YR 2/1	50	10YR 5/1	50	cs_		Mucky Sand	
5-16"	10YR 2/1	100					Mucky Sand	
	centration, D=Depletion	n, RM=Red	uced Matrix, MS=Masl	ked Sand G	rains. ² Loca	tion: PL=Po		olematic Hydric Soils ³ :
Hydric Soil In Histosol			Stripped Matrix (S	S6)			2 cm Muck (-
	pipedon (A2)	_	Loamy Mucky Mi					e Redox (A16)
	istic (A3)	_	Loamy Gleyed M					Peat or Peat (S3)
	en Sulfide (A4) d Layers (A5)	_	Depleted Matrix (Redox Dark Surf				Dark Surface	e (S7) elow Surface (S8)
	d Eayers (A3) d Below Dark Surface (A11)	Depleted Dark Sun				Thin Dark S	
	ark Surface (A12)	´ -	Redox Depression					nese Masses (F12)
	Mucky Mineral (S1)							Material (F21)
	Gleyed Matrix (S4) Redox (S5)							v Dark Surface (TF12) ain in Remarks)
Sandy N	redux (03)						Other (Expla	air iir Remarks)
2Indicators of	hydrophytic vegetation	and watlan	d bydrology must bo r	rocont unl	oce dieturbo	d or problem	atio	
		and wellan	a flyafology fliast be p	nesent, uni	ess disturbed	or problem	alic.	
	ayer (if observed):							
Type:								
Depth (ii	nches):					Hydric So	il Present?	Yes X No
Remarks:								

Project/Site:	Edenville Dam		City/County:	Midland Co.	Sampling Date:	3/15/2021
Applicant/Owner:	Four Lakes Task Force			State:	MI Sampling Point:	dp22
Investigator(s):	E. Vander Stelt; B. Norr	is	Section, T	ownship, Range:	T16N, R01W, Section 01	
Landform (hillslope, t	terrace, etc.):	Toeslope		Local relief (concave, conv	vex, none): concave	
Slope (%):	1-2% Lat:	43.813548	Long:	-84.380701	Datum: NA	D83 HARN
Soil Map Unit Name:	Evart loamy san	d			NWI classification:	none
Are climatic / hydrolo	ogic conditions on the site ty	ypical for this time of year?	Yes X	No (If no, explain	in Remarks.)	
Are Vegetation	, Soil	, or Hydrology significa	ntly disturbed?	re "Normal Circumstances	" present? Yes X No	
Are Vegetation	, Soil	, or Hydrologynaturally	problematic? (f needed, explain any answ	ers in Remarks.)	
SUMMARY OF	FINDINGS Attach	site map showing sam	pling point locations	, transects, importa	nt features, etc.	
Lludronbudio Variata	stion Drosout?	Van V Na	le the Commi	ad Auga		
Hydrophytic Vegeta Hydric Soil Present		Yes X No X	Is the Sampl within a Wet		Yes No_ X	
Wetland Hydrology		Yes X No		al Wetland Site ID:	<u>X</u>	•
Remarks: (Expl	lain alternative procedures	here or in a separate report.)				
, ,	· · · · · · · · · · · · · · · · · · ·	nditions are normal per the WET	S table.			
HYDROLOGY						
Watland Hydrolog	u Indiantora			Socondary Indi	actors (minimum of two required)	
Wetland Hydrolog Primary Indicators (ly indicators: (minimum of one is required	d. check all that apply)			cators (minimum of two required) Soil Cracks (B6)	_
Surface Water	•	Water-Stained	Leaves (B9)		Patterns (B10)	
High Water Ta	able (A2)	Aquatic Fauna			m Lines (B16)	
Saturation (A3	3)	Marl Deposits			on Water Table (C2)	
Water Marks (Hydrogen Sulfi			Burrows (C8)	
Sediment Dep			ospheres on Living Roots (C		n Visible on Aerial Imagery (C9)	
Drift Deposits Algal Mat or C	` '		educed Iron (C4) eduction in Tilled Soils (C6)		or Stressed Plants (D1) whic Position (D2)	
Iron Deposits	, ,	Thin Muck Sur			Aquitard (D3)	
	sible on Aerial Imagery (B7)				ograpic Relief (D4)	
	etated Concave Surface (B		,		tral Test (D5)	
Field Observations	s:					
Surface Water Pres	sent? Yes	No X Depth (inche	es):			
Water Table Preser	nt? Yes	No X Depth (inche	es):			
Saturation Present?	? Yes	No X Depth (inche	es):	Vetland Hydrology Preser	nt? Yes X No	
(includes capillary fi	ringe)					
Describe Recorded	l Data (stream gauge, mon	itoring well, aerial photos, previo	ous inspections), if available	e:		
Remarks:						

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1. Carpinus caroliniana	30	Yes	FAC	Number of Dominant Species That
2. Fraxinus pennsylvanica	15	Yes	FACW	Are OBL, FACW, or FAC: 3 (A)
3. Quercus rubra	10	No	FACU	Total Number of Dominant Species
4. Quercus alba	10	No	FACU	Across All Strata3(B)
5. Acer saccharum	5	No	FACU	Percent of Dominant Species That
6.				Are OBL, FACW, or FAC:
7.				
	70	= Total Cover		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.))			Total % Cover of: Multiply by:
1				OBL species 0 x 1 = 0
2				FACW species 15 x 2 = 30
3				FAC species 50 x 3 = 150
4				FACU species <u>25</u> x 4 = <u>100</u>
5				UPL species0 x 5 =0
6				Column Totals: 90 (A) 280 (B)
7				Prevalence Index = B/A = 3.11
		= Total Cover	-	
Herb Stratum (Plot size: 5 ft.)				
1. Equisetum hyemale	20	Yes	FAC	Hydrophytic Vegetation Indicators:
2				Rapid Test for Hydrophytic Vegetation
3				X Dominance Test is >50%
4				Prevalence Index is ≤ 3.0 ¹
5				Morphological Adaptations ¹ (Provide supporting
6				data in Remarks or on a separate sheet)
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10				
11				
12				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in
14				diameter at breast height (DBH), regardless of height.
15				noight.
16				Sapling/shrub - Woody plants less than 3 inches
17				DBH and greater than 3.28 ft (1 m) tall.
18				Herb - All herbaceous (non-woody) plants, regardless
19				of size, and woody plants less than 3.28 ft tall.
20				
	20	= Total Cover	•	Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.))			height.
1				
2				Hydrophytic Vegetation Present ?
3				
4				Yes <u>x</u> No
		= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				

Depth	Matrix		Red	dox Featı	ures				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	R	emarks
0-2"	10YR 4/2	100					Silty Clay		
2-5"	10YR 4/4	100					Sand		
5-18"	10YR 3/2	100					Sandy Loam		
3-10	10111 3/2	100					Sandy Loani		
								-	
	ncentration, D=Depletion	n, RM=Red	uced Matrix, MS=Mask	ed Sand G	rains. ² Loca	tion: PL=Po	re Lining, M=Matrix. Indicators for Pro		Coilo ³ :
ydric Soil Ir Histosol			Stripped Matrix (S	36)			2 cm Muck	_	Solis :
	pipedon (A2)	_	Loamy Mucky Mir					ie Redox (A16)	
	istic (A3)	_	Loamy Gleyed Ma					/ Peat or Peat (S	3)
	en Sulfide (A4)	_	Depleted Matrix (I				Dark Surface		
	d Layers (A5) d Below Dark Surface (.		Redox Dark Surfa Depleted Dark Su				Polyvalue E Thin Dark S	Selow Surface (S	8)
	ark Surface (A12)	_	Redox Depression					nese Masses (F	12)
	Mucky Mineral (S1)	_		(-)				Material (F21)	,
	Gleyed Matrix (S4)							w Dark Surface ((TF12)
Sandy F	Redox (S5)						Other (Expl	ain in Remarks)	
Indicators of	hydrophytic vegetation	and wetlan	d hydrology must be p	resent, unle	ess disturbed	d or problem	atic.		
estrictive L	ayer (if observed):								
Type:									
-						l			
Depth (i	inchos):					I Hydric Co	il Present?	Yes	No X

Project/Site:	Edenville Dam		City/	County:	Midland Co.	Sampling Date:	3/15/2021
Applicant/Owner:	Four Lakes Task Force				State: MI	Sampling Point:	dp23
Investigator(s):	E. Vander Stelt; B. Norris			Section, Town	ship, Range:	T16N, R01W, Section 0	1
Landform (hillslope, te	rrace, etc.):	Toeslope	Э	Loc	cal relief (concave, convex, nor	e): concave	
Slope (%): 1	-2% Lat:	43.813545	Long:		-84.380694	Datum: N	AD83 HARN
Soil Map Unit Name:	Sloan loam				NWI cla	assification:	none
Are climatic / hydrolog	ic conditions on the site typ	ical for this time of year	?	Yes X No	(If no, explain in Rem	arks.)	
Are Vegetation	, Soil , c	or Hydrology się	gnificantly disturbed	i? Are "i	Normal Circumstances" preser	nt? Yes X N	0
Are Vegetation	, Soil , o	or Hydrology na	turally problematic	? (If ne	eded, explain any answers in F	temarks.)	
SUMMARY OF I	FINDINGS Attach s	ite map showing	sampling poin	t locations, tra	ansects, important feat	ures, etc.	
Lludraphytic Vagatati	ion Dracont?	Van V Na		le the Compled A		·	
Hydrophytic Vegetati Hydric Soil Present?		Yes X No Yes No	X	Is the Sampled A		NoX	
Wetland Hydrology F		Yes X No		If yes, optional W		NoX	_
	in alternative procedures he						
	tion analysis indicates condi						
HYDROLOGY							
Wetland Hydrology	Indicators:				Secondary Indicators (minimum of two required)
	ninimum of one is required;				Surface Soil Cra	·	
Surface Water			tained Leaves (B9)		Drainage Pattern		
High Water Tab			Fauna (B13) posits (B15)		Moss Trim Lines Dry-Season Wat		
Saturation (A3) Water Marks (E			n Sulfide Odor (C1))	Crayfish Burrows		
Sediment Depo	·		Rhizospheres on I			e on Aerial Imagery (C9)	
Drift Deposits (I			e of Reduced Iron (Stunted or Stress		
Algal Mat or Cri	•		ron Reduction in Ti		X Geomorphic Pos		
Iron Deposits (E			ck Surface (C7)	(/	Shallow Aquitard		
	ole on Aerial Imagery (B7)		xplain in Remarks)		Microtopograpic		
	ated Concave Surface (B8)				X FAC-Neutral Tes		
Field Observations	:						
Surface Water Prese	ent? Yes	No X Depth	(inches):				
Water Table Present	? Yes	No X Depth	(inches):				
Saturation Present?	Yes	No X Depth	(inches):	Wetla	and Hydrology Present?	Yes X No	
(includes capillary fri	nge)	<u></u> -				<u> </u>	
Describe Recorded [Data (stream gauge, monito	ring well, aerial photos,	previous inspection	ns), if available:			
Remarks:							

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1. Carpinus caroliniana	30	Yes	FAC	Number of Dominant Species That
2. Fraxinus pennsylvanica	15	Yes	FACW	Are OBL, FACW, or FAC: 3 (A)
3. Quercus rubra	10	No	FACU	Total Number of Dominant Species
4. Quercus alba	10	No	FACU	Across All Strata3(B)
5. Acer saccharinum	5	No	FACW	Percent of Dominant Species That
6.				Are OBL, FACW, or FAC:
7.				
	70	= Total Cover		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.))			Total % Cover of: Multiply by:
1				OBL species 0 x 1 = 0
2				FACW species 20 x 2 = 40
3				FAC species 50 x 3 = 150
4				FACU species 20 x 4 = 80
5				UPL species 0 x 5 = 0
6				Column Totals: 90 (A) 270 (B)
7				Prevalence Index = B/A = 3.00
		= Total Cover	-	
Herb Stratum (Plot size: 5 ft.)				
1. Equisetum hyemale	20	Yes	FAC	Hydrophytic Vegetation Indicators:
2				Rapid Test for Hydrophytic Vegetation
3				X Dominance Test is >50%
4				X Prevalence Index is ≤ 3.0 ¹
5				Morphological Adaptations ¹ (Provide supporting
6				data in Remarks or on a separate sheet)
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10				
11				
12				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in
14				diameter at breast height (DBH), regardless of height.
15				noight.
16				Sapling/shrub - Woody plants less than 3 inches
17				DBH and greater than 3.28 ft (1 m) tall.
18				Herb - All herbaceous (non-woody) plants, regardless
19				of size, and woody plants less than 3.28 ft tall.
20				
	20	= Total Cover	•	Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.))			height.
1				
2				Hydrophytic Vegetation Present ?
3				
4				Yes <u>x</u> No
		= Total Cover	•	
Remarks: (Include photo numbers here or on a separate sheet.)				

Depth	iption: (Describe to th Matrix	·		dox Feat			,		
(inches)	Color (moist)	%	Color (moist)	%	Type¹	Loc ²	Texture	Re	emarks
0-2"	10YR 4/2	100					Silty Clay		
2-5"	10YR 4/4	100					Sand		
5-18"	10YR 3/2	100							
<u> </u>	10113/2	100					Sandy Loam		
¹ Type: C=Con	ncentration, D=Depletion	n, RM=Red	uced Matrix, MS=Mask	ed Sand G	irains. ² Loca	tion: PL=Po	re Lining, M=Matrix.		
Hydric Soil Ir			,				Indicators for Prob	lematic Hydric	Soils ³ :
Histosol		_	Stripped Matrix (S				2 cm Muck (
	pipedon (A2) istic (A3)	_	Loamy Mucky Mir Loamy Gleyed Ma					e Redox (A16) Peat or Peat (S3	3)
	en Sulfide (A4)	_	Depleted Matrix (F				Dark Surface		<i>,</i>
Stratified	d Layers (A5)	_	Redox Dark Surfa	ice (F6)			Polyvalue Be	elow Surface (S8	3)
	d Below Dark Surface (A11) _	Depleted Dark Su				Thin Dark St		0)
	ark Surface (A12) Mucky Mineral (S1)	_	Redox Depression	ns (F8)				nese Masses (F1 Material (F21)	2)
	Gleyed Matrix (S4)							v Dark Surface (ΓF12)
Sandy F	Redox (S5)						Other (Expla	in in Remarks)	
3Indicators of	hydrophytic vegetation	and wetlan	d hydrology must be p	resent, unl	ess disturbed	d or problem	atic.		
Restrictive La	ayer (if observed):								
Type:									
_						Hardela Oa	!! B	V	N. V
Depth (i	nches):					Hydric So	il Present?	Yes	No X
Remarks:									

Project/Site:	Edenville Dam		City/Co	ounty:	Gladwin Co.	Sampling Date	e: 3/15/2021
Applicant/Owner:	Four Lakes Task Force				State: M	II Sampling Poir	nt: dp24
Investigator(s):	E. Vander Stelt; B. Norris	3		Section, Township	o, Range:	T17N, R01W, Section	on 36
Landform (hillslope, te	errace, etc.):	Slough		Local re	elief (concave, convex, no	one): concave	
Slope (%): 0	-1% Lat:	43.814675	Long:		84.380051	Datum:	NAD83 HARN
Soil Map Unit Name:	Menominee sand	, 6 to 14 percent slopes			NWI	classification:	none
Are climatic / hydrolog	gic conditions on the site typ	pical for this time of year	?	Yes X No	(If no, explain in Re	marks.)	
Are Vegetation		or Hydrologysi		Are "Norr	mal Circumstances" pres		No
Are Vegetation			aturally problematic?		d, explain any answers in		_
	FINDINGS Attach			,		•	
			Jampinia pome				
Hydrophytic Vegetati		Yes X No		the Sampled Area			
Hydric Soil Present? Wetland Hydrology F		Yes X No		vithin a Wetland? yes, optional Wetlan		sX No	
	ain alternative procedures h			yes, optional wettai	——————————————————————————————————————		
, ,	tion analysis indicates cond						
	•	•					
HYDROLOGY							
Wetland Hydrology	Indicators:				Secondary Indicators	s (minimum of two requ	uired)
	ninimum of one is required;	check all that apply)			Surface Soil Cr	` .	iii cu)
Surface Water			Stained Leaves (B9)	_	Drainage Patte		
X High Water Tab	ole (A2)	Aquatic	Fauna (B13)		Moss Trim Line	es (B16)	
X Saturation (A3)			posits (B15)		Dry-Season W		
Water Marks (E			en Sulfide Odor (C1)	(00)	Crayfish Burrov		00)
Sediment Depo			d Rhizospheres on Liv	-		ole on Aerial Imagery (39)
Drift Deposits (I	,		e of Reduced Iron (Color Iron Reduction in Tille		X Geomorphic Po	essed Plants (D1)	
Iron Deposits (E	, ,		ck Surface (C7)	a dolla (do)	Shallow Aquita		
I —	ole on Aerial Imagery (B7)		Explain in Remarks)		Microtopograpi		
	ated Concave Surface (B8)				X FAC-Neutral Te		
Field Observations	<u> </u>						
Surface Water Prese	ent? Yes	No X Depth	(inches):				
Water Table Present	t? Yes X	No Depth	(inches): 2"				
Saturation Present?	Yes X	No Depth	(inches): surface	Wetland	Hydrology Present?	Yes X N	lo
(includes capillary fri	<u> </u>						
Describe Recorded I	Data (stream gauge, monito	oring well, aerial photos,	previous inspections), if available:			
Remarks:							

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1				Number of Dominant Species That
2.				Are OBL, FACW, or FAC: 3 (A)
3				Total Number of Dominant Species
4				Across All Strata 3 (B)
5				Percent of Dominant Species That
6				Are OBL, FACW, or FAC: 100% (A/B)
7				
		= Total Cove	r	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.))			Total % Cover of: Multiply by:
1. Rhamnus cathartica	10	Yes	FAC	OBL species 3 x 1 = 3
2. Salix nigra	3	Yes	OBL	FACW species 55 x 2 = 110
3				FAC species 10 x 3 = 30
4				FACU species 0 x 4 = 0
5				UPL species 0 x 5 = 0
6.				Column Totals:68 (A)143 (B)
7				Prevalence Index = B/A = 2.10
	13	= Total Cove	r	
Herb Stratum (Plot size: 5 ft.)				
Phalaris arundinacea	50	Yes	FACW	Hydrophytic Vegetation Indicators:
2. Cornus alba	5	<u>No</u>	FACW	Rapid Test for Hydrophytic Vegetation
3				X Dominance Test is >50%
4				X Prevalence Index is ≤ 3.0¹
5				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6				,
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10				
11				Definitions of Vagetation Strate.
12.				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of
14 15				height.
40				Sapling/shrub - Woody plants less than 3 inches
47				DBH and greater than 3.28 ft (1 m) tall.
40				
40				Herb - All herbaceous (non-woody) plants, regardless
20				of size, and woody plants less than 3.28 ft tall.
	55	= Total Cove	r	Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.)				height.
1				
2.				Hydrophytic Vegetation Present ?
3.				
4.				Yes x No
		= Total Cove	r	
Remarks: (Include photo numbers here or on a separate sheet.)				
(motes prioris named for on a separate shoot,)				

Depth	Matrix		Red	dox Feati	ures			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-1"	10YR 2/1	100					Muck	
1-8"	10YR 5/2	90	10YR 4/6	10		PL	Sandy Clay	
							Canay Clay	
_								
Tvpe: C=Cor	ncentration, D=Depletion	n. RM=Red	uced Matrix. MS=Mask	ed Sand G	rains. ² Loca	tion: PL=Po	re Lining, M=Matrix.	
lydric Soil In		,	,					lematic Hydric Soils ³ :
Histosol	I (A1)	_	Stripped Matrix (S				2 cm Muck (A	
	pipedon (A2)	_	Loamy Mucky Mir					Redox (A16)
	istic (A3)	_	Loamy Gleyed Ma				5 cm Mucky Dark Surface	Peat or Peat (S3)
	en Sulfide (A4) d Layers (A5)	_	X Depleted Matrix (I					elow Surface (S8)
	d Below Dark Surface (A11)	Depleted Dark Su				Thin Dark Su	
	ark Surface (A12)	_	Redox Depressio	ns (F8)			Iron-Mangan	ese Masses (F12)
	Mucky Mineral (S1)							Material (F21)
	Gleyed Matrix (S4) Redox (S5)							Dark Surface (TF12) in in Remarks)
Gandy is	redux (55)						Other (Explain	II III Nemarks)
Indicators of	hydrophytic vegetation	and wetlan	d hydrology must be p	resent, unle	ess disturbed	or problem	atic.	
Restrictive La	ayer (if observed):							
Type: \	Water							
Depth (i	noboo):	inches				Hudria Ca	I Present?	Yes X No

Project/Site:	Edenville Dam			City/County:	G	ladwin Co.	Samp	oling Date:	3/15/2021
Applicant/Owner:	Four Lakes Task Force)				State: M	Samp	oling Point:	dp25
Investigator(s):	E. Vander Stelt; B. Nor	ris		Section	, Township, Ra	ange:	T17N, R01\	W, Section 36	 3
Landform (hillslope, te	errace, etc.):		Footslope		Local relief	(concave, convex, no	ne): convex		
Slope (%): 1	-2% Lat:	43.8146	699	Long:	-84.3	79982	Dat	tum: N	AD83 HARN
Soil Map Unit Name:	Menominee sar	nd, 6 to 14 percer	nt slopes			NWI o	lassification:		none
	gic conditions on the site t			Yes X	No	(If no, explain in Rer	narks.)		
Are Vegetation	-		significantly	disturbed?	Are "Normal	Circumstances" prese		es X No	0
Are Vegetation			naturally prol			xplain any answers in			
	FINDINGS Attach	_			,		,	_	
Hydrophytic Vegetati		Yes	NoX		npled Area	.,			
Hydric Soil Present? Wetland Hydrology F		Yes Yes	No X	within a W	/etland? onal Wetland S			No X	_
				ii yes, optii	Jilai Wellanu S				
	ain alternative procedures ation analysis indicates co			ble.					
	,,								
HYDROLOGY									
Wetlered Hedreless	. In diagrams					Carandan, Indiantan	(ii		
Wetland Hydrology	ndicators: minimum of one is require	ed: check all that:	annly)		•	Secondary Indicators Surface Soil Cra	`	two requirea)	<u>'</u>
Surface Water		a, check all that t	Water-Stained Lea	ves (B9)		Drainage Patter			
High Water Tab			Aquatic Fauna (B1:		•	Moss Trim Line			
Saturation (A3)			Marl Deposits (B15	5)	'	Dry-Season Wa	iter Table (C2	.)	
Water Marks (E			. Hydrogen Sulfide C		•	Crayfish Burrow			
Sediment Depo				eres on Living Roots	s (C3)	Saturation Visib			
Drift Deposits (· •		Presence of Reduc			Stunted or Stre)1)	
Algal Mat or Cr			Recent Iron Reduc	tion in Tilled Soils (C	(6)	Geomorphic Po			
Iron Deposits (E	bb) ble on Aerial Imagery (B7		Other (Explain in R		•	Shallow Aquitar Microtopograpio			
	tated Concave Surface (E		, στι οι (Ξλρια ι	················	,	FAC-Neutral Te			
Field Observations									
Surface Water Prese		No X	Depth (inches):						
Water Table Present	t? Yes	No X	Depth (inches):						
Saturation Present?	Yes	No X	Depth (inches):		Wetland Hyd	drology Present?	Yes	No	Χ
(includes capillary fri	nge)	-	•						
Describe Recorded I	Data (stream gauge, mor	nitoring well, aeria	Il photos, previous in	nspections), if availa	ble:				
Remarks:									

	Absolute	Dominant	Indicator	
<u>Tree Stratum</u> (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1. Quercus alba	10	Yes	FACU	Number of Dominant Species That
2.				Are OBL, FACW, or FAC: 0 (A)
3.				Total Number of Dominant Species
4				Across All Strata 3 (B)
5				Percent of Dominant Species That
6				Are OBL, FACW, or FAC: 0% (A/B)
7				
	10	= Total Cove	r	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)			Total % Cover of: Multiply by:
1				OBL species 0 x 1 = 0
2				FACW species 0 x 2 = 0
3				FAC species15
4				FACU species 35 x 4 = 140
5				UPL species 20 x 5 = 100
6				Column Totals: 70 (A) 285 (B)
7				Prevalence Index = B/A = 4.07
		= Total Cove	r	
Herb Stratum (Plot size: 5 ft.)				
1. Setaria faberi	15	Yes	FACU	Hydrophytic Vegetation Indicators:
2. Barbarea vulgaris	5	No	FAC	Rapid Test for Hydrophytic Vegetation
3. Digitaria sanguinalis	10	No	FACU	Dominance Test is >50%
4. Elaeagnus umbellata	20	Yes	<u>UPL</u>	Prevalence Index is ≤ 3.0 ¹
5. Equisetum arvense	10	<u>No</u>	<u>FAC</u>	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6				,
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9		-		be present, unless disturbed or problematic.
10				
11.				Definitions of Vegetation Strate.
12.				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of
14				height.
15				Continue (character Manches Indeed to an 2 in about
16 17				Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.
				, ,
40				Herb - All herbaceous (non-woody) plants, regardless
				of size, and woody plants less than 3.28 ft tall.
	60	= Total Cove		Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.	,	- 10tal 0010	•	height.
4	,			
2				Hydrophytic Vegetation Present ?
2				
4.				Yes No X
		= Total Cove		
Remarks: (Include photo numbers here or on a separate sheet.)				
internation. (infolute priore numbers fiere of our a separate sheet.)				

Depth (inches) C 0-2" 2-8" 8-18"	Matrix olor (moist) 10YR 4/2 10YR 4/4 10YR 4/6	% 100 100 100	Color (moist)	dox Featu %	Type ¹	Loc²	Silty Clay Sand Sand	Re	marks
0-2"	10YR 4/2 10YR 4/4	100					Silty Clay Sand		
2-8"	10YR 4/4	100					Sand		
8-18"	10YR 4/6	100					Sand		
		·							
		·					_		
	·	·							
'Type: C=Concentr Hydric Soil Indica		, RM=Redu	iced Matrix, MS=Mask	ed Sand Gr	ains. ² Loca		e Lining, M=Matrix. Indicators for Prob	lematic Hydric S	Soils ³ ·
Histosol (A1)	iors.		Stripped Matrix (S	(6)			2 cm Muck (A	-	.0110 1
Histic Epiped	on (A2)	_	Loamy Mucky Min					Redox (A16)	
Black Histic (A		_	Loamy Gleyed Ma					Peat or Peat (S3))
Hydrogen Su Stratified Lay			Depleted Matrix (F Redox Dark Surfa				Dark Surface	e (S7) elow Surface (S8)	
	ow Dark Surface (A	.11)	Depleted Dark Suna				Thin Dark Su		
Thick Dark S		´ _	Redox Depression					ese Masses (F12	2)
Sandy Mucky								Material (F21)	
Sandy Gleyed								<i>r</i> Dark Surface (Ti in in Remarks)	F12)
Sandy Redox	. (33)						Other (Expla	iii iii Neillaiks)	
3Indicators of hydro	phytic vegetation a	and wetland	d hydrology must be pr	resent, unles	ss disturbed	or problema	atic.		
Restrictive Layer	if observed):								
Type:									
Depth (inches	3):			_		Hydric Soi	I Present?	Yes	No X
Remarks:						nyuno oo			

Project/Site:	Edenville Dam		City/County:	Gladwin Co.		Sampling Date:	3/15/2021
Applicant/Owner:	Four Lakes Task Force			S	tate: MI	Sampling Point:	dp26
Investigator(s):	E. Vander Stelt; B. Norris	3	Section,	Township, Range:	T17	N, R01W, Section 3	6
Landform (hillslope, to	errace, etc.):	Toeslope		Local relief (concave,	convex, none): c	concave	
Slope (%):	2% Lat:	43.814669	Long:	-84.379733	<u> </u>	Datum: N	AD83 HARN
Soil Map Unit Name:	Menominee sand	, 6 to 14 percent slopes			NWI classifi	cation:	none
	gic conditions on the site typ		Yes X	No (If no, ex	—— plain in Remarks.	.)	
Are Vegetation		•		Are "Normal Circumsta		Yes X N	0
Are Vegetation				(If needed, explain any			
		·	mpling point location				
	— Attach	site map snowing se		5, transcots, impe			
Hydrophytic Vegetat		Yes X No	Is the Sam				
Hydric Soil Present?		Yes X No	within a We		Yes X	No	_
Wetland Hydrology I		Yes X No		nal Wetland Site ID:			
	ain alternative procedures he ation analysis indicates cond						
/ iiiiooodoiii prooipiio	and you make the	and normal per the t					
HYDROLOGY							
Wetland Hydrology	. Indicators			Cacandan	/ Indiantora (minir	num of two required	`
	minimum of one is required;	check all that apply)			ace Soil Cracks (mum of two required	<u>) </u>
Surface Water			ned Leaves (B9)		nage Patterns (B		
High Water Ta		Aquatic Fa			s Trim Lines (B16		
Saturation (A3))	Marl Depos	sits (B15)	Dry-	Season Water Ta	able (C2)	
Water Marks (I	B1)		Sulfide Odor (C1)		fish Burrows (C8)		
Sediment Depo			hizospheres on Living Roots			Aerial Imagery (C9)	
Drift Deposits (` '		of Reduced Iron (C4)		ted or Stressed F		
Algal Mat or Cr	` '		n Reduction in Tilled Soils (C6		morphic Position		
Iron Deposits (Surface (C7)		low Aquitard (D3)		
	ble on Aerial Imagery (B7) tated Concave Surface (B8)		lain in Remarks)		otopograpic Relie -Neutral Test (D5	` ,	
)			-Neutral Test (Do	·)	
Field Observations Surface Water Pres		No X Depth (in	ahaa):				
Water Table Presen		 -					
Saturation Present?				Wetland Hydrology Pr	econt?	/oc V No	
(includes capillary fri		No Depth (in	cries). 16	Welland Hydrology Fr	esent?	res X No	
	· ·	oring well, aerial photos, pr	evious inspections), if availab	le:			
200020 1 1000204	zata (otroam gaago, morat	ormig from domar priotoc, pr	oriono,, ii arailas				
Remarks:							
- tomanter							

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1				Number of Dominant Species That
2				Are OBL, FACW, or FAC: 2 (A)
3				Total Number of Dominant Species
4				Across All Strata 2 (B)
5				Percent of Dominant Species That
6				Are OBL, FACW, or FAC:(A/B)
7				
		= Total Cove	r	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.))			Total % Cover of: Multiply by:
1				OBL species30 x 1 =30
2				FACW species 20
3				FAC species35 x 3 =105
4				FACU species0 x 4 =0
5				UPL species0 x 5 =0
6				Column Totals: <u>85</u> (A) <u>175</u> (B)
7				Prevalence Index = B/A = 2.06
Harly Chartering (DL) () 5 (= Total Cove	r	
Herb Stratum (Plot size: 5 ft.)	25	Yes	OBL	Hydrophytic Vegetation Indicators:
1. Carex hystericina	25			
2. Juncus effusus	5	No Yes	OBL	X Rapid Test for Hydrophytic Vegetation X Dominance Test is >50%
3. Cornus alba	20	No	FACW	$\frac{X}{X}$ Dominance Test is >50% $\frac{X}{X}$ Prevalence Index is $\leq 3.0^{1}$
Euthamia graminifolia Apocynum cannabinum	10	No	FAC FAC	
5. Apocynum cannabinum6. Setaria pumila	10	No	FAC	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
7. Barbarea vulgaris	5	No No	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
8.		110	TAC	
9.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10.				be present, unless distarbed of presidentatio.
11				
12				Definitions of Vegetation Strata:
13.				Tree - Woody plants 3 inches (7.6 cm) or more in
14				diameter at breast height (DBH), regardless of
15				height.
16				Sapling/shrub - Woody plants less than 3 inches
17				DBH and greater than 3.28 ft (1 m) tall.
18				
19				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
20				, , , , , , , , , , , , , , , , , , ,
	85	= Total Cove	r	Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.))			height.
1				
2				Hydrophytic Vegetation Present ?
3				
4				Yes <u>x</u> No
		= Total Cove	r	
Remarks: (Include photo numbers here or on a separate sheet.)				

Profile Descr	iption: (Describe to th	e depth n	eeded to document th	e indicato	r or confirm	the absend	ce of indicators.)				
Depth	Matrix		Re	dox Feat	ures						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks			
0-4"	10YR 4/3	90	10YR 5/6	10	<u>C</u>	M	Sand				
4-7"	10YR 2/1	90					Mucky Sand				
	10YR 4/3	10									
7-18"	10YR 2/1	95	10YR 4/6	5	С	M	Mucky Sand				
			-								
 											
¹ Type: C=Con	ncentration, D=Depletion	n, RM=Red	luced Matrix, MS=Mask	ced Sand G	Grains. ² Loca	ation: PL=Po	ore Lining, M=Matrix.	_			
Hydric Soil In								olematic Hydric Soils ³ :			
Histosol		_	Stripped Matrix (S Loamy Mucky Mir				2 cm Muck (
	pipedon (A2) istic (A3)	=	Loamy Gleyed M			Coast Prairie Redox (A16) 5 cm Mucky Peat or Peat (S3)					
	en Sulfide (A4)	_	Depleted Matrix (Dark Surfac				
	d Layers (A5)	_	Redox Dark Surfa					elow Surface (S8)			
l 	d Below Dark Surface (ark Surface (A12)	A11) _	Depleted Dark Su Redox Depressio				Thin Dark So	urrace (S9) nese Masses (F12)			
	Mucky Mineral (S1)	_	Redox Depressio	113 (1 0)				Material (F21)			
	Gleyed Matrix (S4)							w Dark Surface (TF12)			
Sandy R	Redox (S5)						Other (Expla	ain in Remarks)			
3Indicators of	hydrophytic vegetation	and wetlar	nd hydrology must be p	resent, unl	ess disturbed	d or problem	natic.				
Restrictive La	ayer (if observed):										
Туре: _											
Depth (ii	nches):					Hydric So	oil Present?	Yes X No			
Remarks:						1					

Project/Site:	Edenville Dam			City/County:	(Gladwin Co.	Sampling Date:	3/16/2021
Applicant/Owner:	Four Lakes Task Fo	orce				State: MI	Sampling Point:	dp27
Investigator(s):	E. Vander Stelt; B. I	Norris		Section	n, Township, F	Range:	T17N, R01W, Section 36	
Landform (hillslope, to	errace, etc.):	F	ootslope		Local relie	ef (concave, convex, non	e): concave	
Slope (%):)-1% Lat:	43.81479	0	Long:	-84.	378358	Datum: NAD	83 HARN
Soil Map Unit Name:	Menominee	sand, 6 to 14 percent	slopes	·		NWI cla	assification:	none
Are climatic / hydrolog	gic conditions on the si	te typical for this time	of year?	Yes X	No	(If no, explain in Rem	arks.)	
Are Vegetation	_	, or Hydrology	-		_	- ` ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '		
Are Vegetation		, or Hydrology				explain any answers in R		
_						cts, important feat		
				l l				
Hydrophytic Vegetat		Yes X	No	•	npled Area			
Hydric Soil Present?		Yes X	No	within a V			No	
Wetland Hydrology		Yes X	No	ir yes, opti	onal Wetland	Site ID:		
	ain alternative procedu ation analysis indicates			able				
Antecedent precipita	ation analysis indicates	conditions are normal	per trie WE13 te	ibie.				
HYDROLOGY								
TITOROLOG1								
Wetland Hydrology							minimum of two required)	_
	minimum of one is requ			(50)		Surface Soil Crad		
Surface Water			/ater-Stained Lea	` '		X Drainage Pattern		
X High Water Ta X Saturation (A3)			quatic Fauna (B1 larl Deposits (B1			Moss Trim Lines Dry-Season Wate		
Water Marks (I			lydrogen Sulfide (Crayfish Burrows		
Sediment Depo			-	eres on Living Roots	s (C3)		on Aerial Imagery (C9)	
Drift Deposits (resence of Reduc	_	,	Stunted or Stress		
Algal Mat or Cı	rust (B4)	R	ecent Iron Reduc	tion in Tilled Soils (C	26)	X Geomorphic Pos	ition (D2)	
Iron Deposits (•		hin Muck Surface			Shallow Aquitard		
	ble on Aerial Imagery (· · —	ther (Explain in R	temarks)		Microtopograpic		
Sparsely Vege	tated Concave Surface	e (B8)				X FAC-Neutral Tes	t (D5)	
Field Observations								
Surface Water Pres		No X	Depth (inches):					
Water Table Presen	· —		Depth (inches):	8"				
Saturation Present?		K No	Depth (inches):	surface	Wetland Hy	drology Present?	Yes X No	
(includes capillary fr					1.1.			
Describe Recorded	Data (stream gauge, r	nonitoring well, aerial p	photos, previous i	nspections), if availa	able:			
Remarks:								

	Absolute	Dominant	Indicator	
<u>Tree Stratum</u> (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1. Rhamnus cathartica	30	Yes	FAC	Number of Dominant Species That
2. Fraxinus pennsylvanica	20	Yes	FACW	Are OBL, FACW, or FAC: 5 (A)
3. Populus deltoides	10	No	FAC	Total Number of Dominant Species
4.				Across All Strata 5 (B)
5.				Percent of Dominant Species That
6.				Are OBL, FACW, or FAC: 100% (A/B)
7.				
	60	= Total Cover		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1. Salix interior	5	No	FACW	OBL species 0 x 1 = 0
2. Rhamnus cathartica	30	Yes	FAC	FACW species 50 x 2 = 100
3.				FAC species 100 x 3 = 300
4.				FACU species 0 x 4 = 0
5.				UPL species 0 x 5 = 0
6.				Column Totals: 150 (A) 400 (B)
7.				Prevalence Index = B/A = 2.67
	35	= Total Cover		
Herb Stratum (Plot size: 5 ft.)				
1. Rhamnus cathartica	25	Yes	FAC	Hydrophytic Vegetation Indicators:
Phalaris arundinacea	20	Yes	FACW	Rapid Test for Hydrophytic Vegetation
3. Onoclea sensibilis	5	No.	FACW	X Dominance Test is >50%
4. Prunella vulgaris	5	No	FAC	X Prevalence Index is ≤ 3.0¹
5.			TAO	
6.				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
7.				Problematic Hydrophytic Vegetation ¹ (Explain)
8.				
9.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10.				be present, unless disturbed of problematic.
11.				
12.				Definitions of Vegetation Strata:
				_
13				Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of
14				height.
15				Conflict of the state of the st
16				Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.
17				· · · · · · · · · · · · · · · · ·
18				Herb - All herbaceous (non-woody) plants, regardless
19				of size, and woody plants less than 3.28 ft tall.
20				
	55	= Total Cover	r	Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: 30 ft.))			noight.
1				
2				Hydrophytic Vegetation Present ?
3				
4				Yes <u>x</u> No
		= Total Cover	r	
Remarks: (Include photo numbers here or on a separate sheet.)				

Profile Descr	iption: (Describe to th	e depth ne	eded to document th	ne indicato	r or confirm	the absence	e of indicators.)	
Depth	Matrix		Re	dox Feat	ures			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-8"	10YR 5/2	90	10YR 4/6	10	<u> </u>	PL	Sand	
8-10"	10YR 4/1	90	10YR 3/6	10	C	PL	Sandy Clay	
10-18"	10YR 2/2	100					Mucky Clay	
¹ Type: C=Con	centration, D=Depletion	n. RM=Red	uced Matrix. MS=Mask	ed Sand G	irains. ² Loca	ation: PL=Po	re Lining, M=Matrix.	
Hydric Soil In		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, , , , , , , , , , , , , , , , , , , ,					olematic Hydric Soils ³ :
Histosol		_	Stripped Matrix (S				2 cm Muck (
	oipedon (A2) istic (A3)	_	Loamy Mucky Min Loamy Gleyed M					e Redox (A16) Peat or Peat (S3)
	en Sulfide (A4)	_	Depleted Matrix (Dark Surfac	
	d Layers (A5)	_	Redox Dark Surfa					elow Surface (S8)
Depleted	d Below Dark Surface (A11)	Depleted Dark Su	urface (F7)			Thin Dark S	
	ark Surface (A12)	_	Redox Depressio	ns (F8)				nese Masses (F12)
	Mucky Mineral (S1)							Material (F21)
	Gleyed Matrix (S4) Redox (S5)							w Dark Surface (TF12) ain in Remarks)
A Salidy R	Redux (33)						Other (Expla	an in Remarks)
	hydrophytic vegetation	and wetlan	d hydrology must be p	resent, unle	ess disturbed	d or problem	atic.	
Restrictive La	ayer (if observed):							
Type: _								
Depth (ii	nches):					Hydric So	il Present?	Yes X No
Remarks:								

Project/Site:	Edenville Dam			City/County:	Gladwi	n Co	Sampling Date:	3/15/2021
Applicant/Owner:	Four Lakes Task Ford	e				State: MI	Sampling Point:	dp28
Investigator(s):	E. Vander Stelt; B. No	rris		Section	, Township, Range:	т	 17N, R01W, Section 3	6
Landform (hillslope, to	errace, etc.):		Shoulder		Local relief (cond	cave, convex, none)	: convex	
Slope (%):	2% Lat:	43.8143	49	Long:	-84.377521			IAD83 HARN
Soil Map Unit Name:	Menominee sa	and, 6 to 14 percent	t slopes	<u> </u>		NWI class	ification:	none
	gic conditions on the site			Yes X	No (If n	o, explain in Remar	-	
Are Vegetation			significantly			mstances" present?		lo.
Are Vegetation			naturally prob			any answers in Rer		
					•	•	•	
SUMMARY OF	FINDINGS Attac	n site map sho	owing samplin	g point location	ns, transects, ir	nportant featu	res, etc.	
Hydrophytic Vegetat	tion Present?	Yes	No X	Is the San	pled Area			
Hydric Soil Present?	?	Yes	No X	within a V	/etland?	Yes	NoX	<u> </u>
Wetland Hydrology I	Present?	Yes	NoX	If yes, opti-	onal Wetland Site ID	:		
Remarks: (Expla	ain alternative procedure	s here or in a sepa	rate report.)					
HYDROLOGY								
	1 11 1							n
Wetland Hydrology		ad: abook all that a	nnly)				inimum of two required	<u>) </u>
Surface Water	minimum of one is requir		אפיין) Water-Stained Lea	ves (B9)		Surface Soil Cracks Drainage Patterns		
High Water Ta			Aquatic Fauna (B13			Moss Trim Lines (E		
Saturation (A3)			Marl Deposits (B15			Dry-Season Water		
Water Marks (I	B1)		Hydrogen Sulfide C			Crayfish Burrows (0	C8)	
Sediment Depo	osits (B2)		Oxidized Rhizosphe	eres on Living Roots	s (C3)	Saturation Visible of	n Aerial Imagery (C9)	
Drift Deposits (Presence of Reduc			Stunted or Stresse		
Algal Mat or Cr				tion in Tilled Soils (C		Geomorphic Position		
Iron Deposits (Thin Muck Surface			Shallow Aquitard (D		
	ble on Aerial Imagery (Batated Concave Surface (Other (Explain in R	emarks)		Microtopograpic Re FAC-Neutral Test (
						TAO Neutrai Test (
Field Observations		N- V	Death (See been)					
Surface Water Pres		_ No X	Depth (inches):					
Water Table Presen		_ No X	Depth (inches):			D 40		V
Saturation Present?		NoX	Depth (inches):		Wetland Hydrolog	gy Present?	Yes No_	<u>×</u>
(includes capillary fr	ringe) Data (stream gauge, mo	mitoring well aerial	photos previous ir	nenections) if availa	ble:			
Describe Necorded	Data (Stream gauge, mo	illitoring well, aerial	priotos, previous ii	ispections), ii avalla	bie.			
Remarks:								

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1.				Number of Dominant Species That
2.				Are OBL, FACW, or FAC: 1 (A)
3.				Total Number of Dominant Species
4.				Across All Strata 2 (B)
5.				Percent of Dominant Species That
6.				Are OBL, FACW, or FAC:50% (A/B)
7.				
		= Total Cover		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)			Total % Cover of: Multiply by:
1				OBL species 0 x 1 = 0
2.				FACW species 0 x 2 = 0
3.				FAC species 25 x 3 = 75
4.				FACU species 5 x 4 = 20
5				UPL species 15 x 5 = 75
6.				Column Totals: 45 (A) 170 (B)
7				Prevalence Index = B/A = 3.78
		= Total Cover		
Herb Stratum (Plot size: 5 ft.)				
1. Asclepias syriaca	15	Yes	UPL	Hydrophytic Vegetation Indicators:
2. Equisetum arvense	25	Yes	FAC	Rapid Test for Hydrophytic Vegetation
3. Dactylis glomerata	5	No	FACU	Dominance Test is >50%
4				Prevalence Index is ≤ 3.0 ¹
5				Morphological Adaptations ¹ (Provide supporting
6				data in Remarks or on a separate sheet)
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10				
11				
12				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in
14				diameter at breast height (DBH), regardless of height.
15				
16				Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.
17				DBH and greater than 3.20 ft (1 fil) tall.
18				Herb - All herbaceous (non-woody) plants, regardless
19				of size, and woody plants less than 3.28 ft tall.
20				
West-Visa Chates	45	= Total Cover		Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: 30 ft.)			To Sync.
1				Hydrophytic Vegetation Present 2
2.				Hydrophytic Vegetation Present ?
3				Voc. No. v
4		Tatal Causa		Yes No <u>X</u>
		= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				

Profile Descr	iption: (Describe to th	ne depth ne	eded to document th	e indicato	r or confirm	the absence	e of indicators.)		
Depth	Matrix		Re	dox Feat	ures				
(inches)	Color (moist)	%	Color (moist)	<u></u> %	Type ¹	Loc ²	Texture	Re	emarks
0-9"	10YR 5/3	100					Sand		
9-12"	10YR 5/4	100					Sand		
12-18"	10YR 3/3	100					Clay Loam		
1					. 2.				
'Type: C=Con Hydric Soil In	centration, D=Depletion	n, RM=Red	uced Matrix, MS=Mask	ed Sand G	rains. Loca	tion: PL=Po	re Lining, M=Matrix. Indicators for Prob	lematic Hydric	Soils ³ :
Histosol		_	Stripped Matrix (S	86)			2 cm Muck (_	
	pipedon (A2)	_	Loamy Mucky Mir					Redox (A16)	
	Black Histic (A3) Loamy Gleyed Matrix (F2) Hydrogen Sulfide (A4) Depleted Matrix (F3)						Dark Surface	Peat or Peat (S3	3)
Stratified Layers (A5) Stratified Layers (A5) Redox Dark Surface (F6)								elow Surface (S8	3)
	d Below Dark Surface (A11)	Depleted Dark Su				Thin Dark Su		
	ark Surface (A12) Mucky Mineral (S1)	_	Redox Depressio	ns (F8)				nese Masses (F1 Material (F21)	2)
	Gleyed Matrix (S4)							v Dark Surface (1	ΓF12)
Sandy R	Redox (S5)						Other (Expla	in in Remarks)	
3Indicators of	hydrophytic vegetation	and wetlan	d hydrology must be p	resent, unle	ess disturbed	or problem	atic.		
Restrictive La	ayer (if observed):								
Type:									
Depth (ii	nches):					Hvdric So	il Present?	Yes	No X
Remarks:						7			<u>. </u>

Project/Site:	Edenville Dam		City/County:	Gladwin Co.	Sampling Date: 3/15/2021
Applicant/Owner:	Four Lakes Task Force			State:	MI Sampling Point: dp29
Investigator(s):	E. Vander Stelt; B. Norris	S	Section	n, Township, Range:	T17N, R01W, Section 36
Landform (hillslope, t	errace, etc.):	Footslope		Local relief (concave, convex,	, none): concave
Slope (%):	2% Lat:	43.814317	Long:	-84.377387	Datum: NAD83 HARN
Soil Map Unit Name:	Menominee sand	l, 6 to 14 percent slopes		NV	VI classification: none
Are climatic / hydrolo	gic conditions on the site typ	pical for this time of year?	Yes X	No (If no, explain in I	Remarks.)
Are Vegetation	, Soil ,	or Hydrology signific	antly disturbed?	Are "Normal Circumstances" pr	esent? Yes X No
Are Vegetation		or Hydrology natural		(If needed, explain any answers	in Remarks.)
SUMMARY OF	FINDINGS Attach	site map showing sam	pling point locatio	ns, transects, important f	eatures, etc.
			<u> </u>	-	
Hydrophytic Vegeta Hydric Soil Present?		Yes X No No	Is the Sar within a V	npled Area	vos V No
Wetland Hydrology		Yes X No		onal Wetland Site ID:	'es X No
		nere or in a separate report.)	7 , . , .		
		ditions are normal per the WE	TS table.		
HYDROLOGY					
Wetland Hydrology	y Indicators:			Secondary Indicate	ors (minimum of two required)
Primary Indicators (minimum of one is required;	; check all that apply)		Surface Soil	Cracks (B6)
Surface Water			d Leaves (B9)	X Drainage Pa	
X High Water Ta		Aquatic Faun		Moss Trim L	
X Saturation (A3) Water Marks (Marl Deposits	s (B15) Ifide Odor (C1)	Dry-Season Crayfish Bur	Water Table (C2)
Sediment Dep			cospheres on Living Root		isible on Aerial Imagery (C9)
Drift Deposits			Reduced Iron (C4)		tressed Plants (D1)
X Algal Mat or C	, ,		Reduction in Tilled Soils (0		
Iron Deposits (Thin Muck Su		Shallow Aqui	itard (D3)
Inundation Visi	ble on Aerial Imagery (B7)	Other (Explai	n in Remarks)	Microtopogra	apic Relief (D4)
Sparsely Vege	tated Concave Surface (B8))		X FAC-Neutral	Test (D5)
Field Observations	s:				
Surface Water Pres	ent? Yes	No X Depth (inch	es):		
Water Table Preser	nt? Yes X	No Depth (inch	es): <u>3"</u>		
Saturation Present?	Yes X	No Depth (inch	es): surface	Wetland Hydrology Present?	Yes X No
(includes capillary fr	= :				
Describe Recorded	Data (stream gauge, monito	oring well, aerial photos, prev	ious inspections), if availa	able:	
Demonstra					
Remarks:					
i					

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1				Number of Dominant Species That
2				Are OBL, FACW, or FAC: 3 (A)
3				Total Number of Dominant Species
4				Across All Strata 3 (B)
5				Percent of Dominant Species That
6				Are OBL, FACW, or FAC:(A/B)
7				
		= Total Cove	r	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1				OBL species <u>5</u> x 1 = <u>5</u>
2				FACW species15 x 2 =30
3				FAC species <u>5</u> x 3 = <u>15</u>
4				FACU species0 x 4 =0
5				UPL species0 x 5 =0
6				Column Totals: <u>25</u> (A) <u>50</u> (B)
7				Prevalence Index = B/A = 2.00
		= Total Cove	r	
Herb Stratum (Plot size: 5 ft.)	_	V	0.51	Hydroubysia Vanatation Indicators
1. Juncus effusus	5	Yes	OBL	Hydrophytic Vegetation Indicators:
2. Carex blanda	5	Yes	FAC	Rapid Test for Hydrophytic Vegetation
3. Cornus alba	15	Yes	FACW	X Dominance Test is >50%
4				X Prevalence Index is ≤ 3.0¹
5				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6				
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9.				be present, unless disturbed or problematic.
10.				
11				Definitions of Vegetation Strata:
				_
13 14				Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of
15				height.
16				Sapling/shrub - Woody plants less than 3 inches
47				DBH and greater than 3.28 ft (1 m) tall.
40				
40				Herb - All herbaceous (non-woody) plants, regardless
20				of size, and woody plants less than 3.28 ft tall.
	25	= Total Cove		Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.)				height.
1				
2				Hydrophytic Vegetation Present ?
3.				
4.				Yes x No
		= Total Cove		
Remarks: (Include photo numbers here or on a separate sheet.)				
incinance. (include priore nambers here of on a separate sheet.)				

Depth	Matrix	ce of indicators.)						
(inches)	Color (moist)	%	Color (moist)	dox Feat %	Type ¹	Loc ²	Texture	Remarks
0-1"	10YR 3/2	100					Mucky Sand	
1-7"	10YR 5/2	98	10YR 4/6	2		PL	Sand	
7-18"	10YR 5/3	100					Sand	
7 10	1011(3/3	100					Sand	
	centration, D=Depletion	n, RM=Red	uced Matrix, MS=Mask	ed Sand G	Grains. ² Loca	tion: PL=Po		
Hydric Soil In			Otalian and Matrix (C	10)			Indicators for Problem	-
Histosol Histic Ep	(A1) ipedon (A2)	_	Stripped Matrix (S Loamy Mucky Mir				2 cm Muck (A10 Coast Prairie Re	
Black His		_	Loamy Gleyed Ma				at or Peat (S3)	
	n Sulfide (A4)	_	Depleted Matrix (I				Dark Surface (S	
	l Layers (A5) d Below Dark Surface (A11)	Redox Dark Surfa Depleted Dark Su				Polyvalue Below Thin Dark Surface	
	rk Surface (A12)	_	Redox Depressio				Iron-Manganese	
	lucky Mineral (S1)	_					Red Parent Mate	
	leyed Matrix (S4)							rk Surface (TF12)
X Sandy R	edox (S5)						Other (Explain in	Remarks)
	hydrophytic vegetation	and wetlan	d hydrology must be p	resent, unl	ess disturbed	d or problem	atic.	
	hydrophytic vegetation	and wetlan	d hydrology must be p	resent, unl	ess disturbed	d or problem	atic.	
Restrictive La				resent, unl	ess disturbed	d or problem	atic.	
Restrictive La	yer (if observed):			resent, unl	ess disturbed			Yes X No
Restrictive La	yer (if observed):			resent, unl	ess disturbed			Yes X No
Restrictive La Type: Depth (ir	yer (if observed):			resent, unl	ess disturbed			YesXNo
Restrictive La Type: Depth (ir	yer (if observed):			resent, unl	ess disturbed			Yes X No
Restrictive La Type: Depth (ir	yer (if observed):			resent, unl	ess disturbed			Yes <u>X</u> No
Restrictive La Type: Depth (ir	yer (if observed):			resent, unl	ess disturbed			YesX No
Restrictive La Type: Depth (ir	yer (if observed):			resent, unl	ess disturbed			Yes <u>X</u> No
Restrictive La Type: Depth (ir	yer (if observed):			resent, unl	ess disturbed			Yes X No
Restrictive La Type: Depth (ir	yer (if observed):			resent, unl	ess disturbed			Yes X No
Restrictive La Type: Depth (ir	yer (if observed):			resent, unl	ess disturbed			Yes <u>X</u> No
Restrictive La Type: Depth (ir	yer (if observed):			resent, unl	ess disturbed			Yes X No
Restrictive La Type: Depth (ir	yer (if observed):			resent, unl	ess disturbed			Yes <u>X</u> No
Restrictive La Type: Depth (ir	yer (if observed):			resent, unl	ess disturbed			Yes X No
Restrictive La Type: Depth (ir	yer (if observed):			resent, unl	ess disturbed			Yes X No
Restrictive La Type: Depth (ir	yer (if observed):			resent, unl	ess disturbed			Yes X No

Project/Site:	Edenville Dam			City/County:		Gladwin Co		Sampling Date:	3/15/2021
Applicant/Owner:	Four Lakes Task Force					State: N	ЛI S	Sampling Point:	dp30
Investigator(s):	E. Vander Stelt; B. Norr	is		Section	n, Township, F	Range:	T17N,	R01W, Section 3	36
Landform (hillslope, te	errace, etc.):		Toeslope		Local relie	ef (concave, convex, r	one): con	cave	
Slope (%):	1% Lat:	43.814	151	Long:	-84.	377476		Datum: N	NAD83 HARN
Soil Map Unit Name:	Menominee sand	d, 6 to 14 percei	nt slopes			NWI	classificat	tion:	none
Are climatic / hydrolog	gic conditions on the site ty	pical for this tim	e of year?	Yes X	No	(If no, explain in Re	emarks.)	<u></u>	
Are Vegetation	•		significantly	disturbed?	Are "Norma	Circumstances" pres		Yes X N	No
Are Vegetation		, or Hydrology				explain any answers ir			
	FINDINGS Attach								
				- 					
Hydrophytic Vegetati		Yes X	No		npled Area	.,			
Hydric Soil Present? Wetland Hydrology F		Yes X Yes X	No	within a \	vetland? ional Wetland		s X	No	_
	ain alternative procedures			- In yes, opt	orial Welland	Oile ID.			
Remarks. (Expia	am alternative procedures	nere or in a sepa	arate report.)						
HYDROLOGY									
							,		
Wetland Hydrology	r Indicators: minimum of one is required	t chack all that	annly)			Secondary Indicator Surface Soil C			<u>(k</u>
Surface Water		i, check all that	арріу) Water-Stained Lea	aves (B9)		X Drainage Patte			
X High Water Tab			Aquatic Fauna (B1			Moss Trim Lin			
X Saturation (A3)			Marl Deposits (B1			Dry-Season W		∍ (C2)	
Water Marks (E	31)		Hydrogen Sulfide	Odor (C1)		Crayfish Burro	ws (C8)		
Sediment Depo			•	neres on Living Root	s (C3)			rial Imagery (C9)	
Drift Deposits (Presence of Redu			Stunted or Stre			
Algal Mat or Cr			-	ction in Tilled Soils (C6)	X Geomorphic P		2)	
Iron Deposits (E	ອວ) ble on Aerial Imagery (B7)	-	Thin Muck Surface Other (Explain in F			Shallow Aquita Microtopograp	. ,	D4)	
	ated Concave Surface (Ba	3)	- Other (Explain III)	tomantoj		X FAC-Neutral T		J-1)	
Field Observations		<u> </u>			1				
Surface Water Prese		No X	Depth (inches):						
Water Table Present		No	Depth (inches):	4"					
Saturation Present?	Yes X	No	Depth (inches):	surface	Wetland Hy	drology Present?	Yes	s X No	
(includes capillary fri			· ` ` ´						
	Data (stream gauge, moni	toring well, aeria	al photos, previous i	inspections), if availa	able:				
Remarks:									

	Absolute	Dominant	Indicator	
<u>Tree Stratum</u> (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1				Number of Dominant Species That
2.				Are OBL, FACW, or FAC: 3 (A)
3				Total Number of Dominant Species
4				Across All Strata 3 (B)
5				Percent of Dominant Species That
6				Are OBL, FACW, or FAC:
7				
		= Total Cove	r	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)			Total % Cover of: Multiply by:
1				OBL species15 x 1 =15
2				FACW species 10 x 2 = 20
3				FAC species0 x 3 =0
4				FACU species0 x 4 =0
5				UPL species0 x 5 =0
6				Column Totals: 25 (A) 35 (B)
7				Prevalence Index = B/A = 1.40
		= Total Cove	r	
Herb Stratum (Plot size: 5 ft.)	40	Vaa	ODI	Urdrankytia Vagatatian Indiaatara
1. Juncus effusus	10	Yes	OBL	Hydrophytic Vegetation Indicators:
2. Cornus alba		Yes	FACW	X Rapid Test for Hydrophytic Vegetation
3. Carex hystericina	5	Yes	OBL	$\frac{X}{X}$ Dominance Test is >50% $\frac{X}{X}$ Prevalence Index is $\leq 3.0^{1}$
4				
				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6				Problematic Hydrophytic Vegetation ¹ (Explain)
8.				
9.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10.				be present, unless disturbed of problematic.
11				
12				Definitions of Vegetation Strata:
40				Tree - Woody plants 3 inches (7.6 cm) or more in
				diameter at breast height (DBH), regardless of
14 15				height.
16				Sapling/shrub - Woody plants less than 3 inches
17				DBH and greater than 3.28 ft (1 m) tall.
18				
19				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
20				or size, and woody plants less than 5.20 it tall.
	25	= Total Cove		Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.)			height.
1				
2				Hydrophytic Vegetation Present ?
3				
4				Yes <u>x</u> No
		= Total Cove	r	
Remarks: (Include photo numbers here or on a separate sheet.)				

Depth	Matrix		Re	dox Featu	ures			
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks
0-6"	10YR 5/2	85	10YR 3/6	15	С	<u>M</u>	Sand	
6-18"	10YR 5/2	100					Sand	
-								
Type: C-Con	centration, D=Depletion	RM-Rad	uced Matrix MS-Mask	red Sand G	rains ² l oca	ntion: PI -Po	re Lining M-Matrix	
lydric Soil Inc		, raw-rad	acca Matrix, MC=Masi	ica cana c	14110. 2000		Indicators for Proble	matic Hydric Soils ³ :
Histosol			Stripped Matrix (S	S6)			2 cm Muck (A1	0)
	ipedon (A2)	_	Loamy Mucky Mir				Coast Prairie R	
Black His		_	Loamy Gleyed Ma					eat or Peat (S3)
	n Sulfide (A4) I Layers (A5)	_	Depleted Matrix (language Pedox Dark Surfa				Dark Surface (S7) w Surface (S8)
	l Below Dark Surface (<i>F</i>	-	Depleted Dark Su				Thin Dark Surfa	
	irk Surface (A12)	´ <u>-</u>	Redox Depressio					se Masses (F12)
	lucky Mineral (S1)	_					Red Parent Ma	
	ileyed Matrix (S4)							Park Surface (TF12)
X Sandy R	edox (S5)						Other (Explain	in Remarks)
Indicators of I	hydrophytic vegetation	and wetlan	d hydrology must be p	resent, unle	ess disturbed	d or problem	atic.	
	yer (if observed):							
Restrictive La								
						Hydric So	il Present?	Yes X No
Type:						Hydric So	il Present?	Yes X No
Type:						Hydric So	il Present?	Yes X No
Type:						Hydric So	il Present?	Yes <u>X</u> No
Type:						Hydric So	il Present?	Yes X No
Type: Depth (in						Hydric So	il Present?	Yes <u>X</u> No
Type:						Hydric So	il Present?	Yes X No
Type:						Hydric So	il Present?	Yes X No
Type:						Hydric So	il Present?	Yes X No
Type:						Hydric So	il Present?	Yes X No
Type:						Hydric So	il Present?	Yes X No
Type:						Hydric So	il Present?	Yes X No
Type:						Hydric So	il Present?	Yes X No
Type:						Hydric So	il Present?	Yes X No
Type:						Hydric So	il Present?	Yes X No

Project/Site:	Edenville Dam			City/County	: (Gladwin Co.		Sampling D	ate:	3/15/2021
Applicant/Owner:	Four Lakes Task F	orce		, , ,		State	: MI	Sampling Po		dp31
Investigator(s):	E. Vander Stelt; B.			Se	ction, Township, F			N, R01W, Sec		'
Landform (hillslope, te			Backslope			ef (concave, cor				
•	-5% Lat:	43.8130	•	Long:		377979		Datum:	NAF	D83 HARN
Soil Map Unit Name:		amy sand, 0 to 3 per			<u> </u>		NWI classific	_		none
Are climatic / hydrolog			·	Yes	X No	(If no explai	n in Remarks.	_		110110
		X_{-} , or Hydrology		-		(ii no, explai		Yes	No	X
Are Vegetation Are Vegetation		, or Hydrology				explain any ans			ivo_	
SUMMARY OF F										
30WIWAKT OF I	INDINGS Atta	acii site iliap sii	owing sampling		ilions, transet	cts, importa	int reature:	<u> </u>		
Hydrophytic Vegetati	on Present?	Yes	NoX		Sampled Area					
Hydric Soil Present?		Yes	NoX	•	a Wetland?	O'te ID	Yes	No	X	
Wetland Hydrology P		Yes	NoX	ır yes,	optional Wetland	Site ID:				
Remarks: (Expla Antecedent precipitat	in alternative procedution analysis indicates	·		ıble.						
7 integodorii precipitat	non analysis maisatet		a. por 1.10 112 10 10							
HYDROLOGY										
Wetland Hydrology	Indicators:					Secondary Inc	dicators (minir	num of two re	auired)	
Primary Indicators (m		uired; check all that a	apply)				Soil Cracks (I		12 22/	
Surface Water ((A1)		Water-Stained Lea	ives (B9)		Drainag	e Patterns (B1	10)		
High Water Tab	ole (A2)		Aquatic Fauna (B1				rim Lines (B16			
Saturation (A3)			Marl Deposits (B15				son Water Ta			
Water Marks (B			Hydrogen Sulfide C) t- (C2)		Burrows (C8)		. (CO)	
Sediment Deposits (E			Oxidized Rhizosph Presence of Reduc	•	(00ts (C3)		on Visible on A or Stressed P		, (Ca)	
Algal Mat or Cru			Recent Iron Reduc		ls (C6)		phic Position			
Iron Deposits (E			Thin Muck Surface		15 (56)		Aquitard (D3)			
	le on Aerial Imagery	(B7)	Other (Explain in R				ograpic Relie			
Sparsely Vegeta	ated Concave Surfac	e (B8)				FAC-Ne	eutral Test (D5	·)		
Field Observations:	:									
Surface Water Prese	ent? Yes	No X	Depth (inches):		_					
Water Table Present	? Yes	No X	Depth (inches):		_					
Saturation Present?	Yes	No X	Depth (inches):		Wetland Hy	ydrology Prese	ent? Y	⁄es	No X	
(includes capillary frin	nge)	<u> </u>			-					
Describe Recorded D	Data (stream gauge,	monitoring well, aeria	l photos, previous i	nspections), if a	vailable:					
Remarks:										

	Absolute	Dominant	Indicator	
<u>Tree Stratum</u> (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1				Number of Dominant Species That
2				Are OBL, FACW, or FAC: 0 (A)
3				Total Number of Dominant Species
4				Across All Strata 0 (B)
5				Percent of Dominant Species That
6				Are OBL, FACW, or FAC: 0% (A/B)
7				
		= Total Cover	r	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1				OBL species 0 x 1 = 0
2				FACW species 0 x 2 = 0
3				FAC species0 x 3 =0
4				FACU species0 x 4 =0
5				UPL species0 x 5 =0
6				Column Totals: 0 (A) 0 (B)
7				Prevalence Index = B/A = 0.00
		= Total Cover	r	
Herb Stratum (Plot size: 5 ft.)				Hydrophytia Vagatatian Indiastora
1.				Hydrophytic Vegetation Indicators:
2				Rapid Test for Hydrophytic Vegetation
3.				Dominance Test is >50% Prevalence Index is ≤ 3.0¹
4				
5				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
7				Problematic Hydrophytic Vegetation ¹ (Explain)
•				
9.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10.				be present, unless distances of problematic.
11.				
12.				Definitions of Vegetation Strata:
13.				Tree - Woody plants 3 inches (7.6 cm) or more in
14				diameter at breast height (DBH), regardless of
15				height.
16				Sapling/shrub - Woody plants less than 3 inches
17				DBH and greater than 3.28 ft (1 m) tall.
18				
19				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
20				, , , , , , , , , , , , , , , , , , , ,
		= Total Cover	r	Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.)				height.
1				
2				Hydrophytic Vegetation Present ?
3				
4				Yes No <u> </u>
		= Total Cover	r	
Remarks: (Include photo numbers here or on a separate sheet.)				
No vegetation; significantly disturbed during recent prior flooding and no re-estable	ishment yet.			

Profile Descr	iption: (Describe to th	ne depth n	eeded to document th	ne indicato	r or confirm	the absence	e of indicators.)		
Depth	Matrix			dox Feat	-				
(inches)	Color (moist)	<u>%</u>	Color (moist)		Type'	Loc ²	Texture	Re	emarks
0-2"	10YR 5/3	100					Silty Clay	,	
2-4"	10YR 5/3	60	10YR 4/6	5	<u> </u>	M	Clay	•	
	10YR 5/1	35							
								-	
		n, RM=Rec	duced Matrix, MS=Mask	ked Sand G	Grains. ² Loca	tion: PL=Po			- · · 3
Hydric Soil Ir Histosol			Stripped Matrix (S	26)			Indicators for Prob 2 cm Muck (_	Solls":
	pipedon (A2)	-	Loamy Mucky Mi					e Redox (A16)	
	istic (A3)	_	Loamy Gleyed M					Peat or Peat (S3	3)
	en Sulfide (A4)	_	Depleted Matrix (Dark Surfac		
	d Layers (A5)		Redox Dark Surfa				Polyvalue Boundary Street	elow Surface (S8)
	d Below Dark Surface (ark Surface (A12)	AII) <u>-</u>	Depleted Dark Su Redox Depressio					nese Masses (F1	2)
	Mucky Mineral (S1)	-	Redox Depressio	/// (i O)				Material (F21)	2)
	Gleyed Matrix (S4)							v Dark Surface (1	ΓF12)
Sandy F	Redox (S5)						Other (Expla	ain in Remarks)	
3Indicators of	hydrophytic vegetation	and wetlar	nd hydrology must be p	resent, unl	ess disturbed	d or problem	atic.		
Restrictive L	ayer (if observed):								
Туре:									
Depth (i	nches):					Hydric So	il Present?	Yes	No X
Remarks:	_								<u> </u>

Project/Site:	Edenville Dam		City/	County:	Midland Co.		Sampling Date:	3/16/2021
Applicant/Owner:	Four Lakes Task Ford	ce		-	S	tate: MI	Sampling Point:	dp32
Investigator(s):	E. Vander Stelt; B. No	orris		Section, Tow	nship, Range:	T16	N, R01W, Section ()1
Landform (hillslope, te	rrace, etc.):	Toes	lope	- Lo	ocal relief (concave,	convex, none): c	concave	
Slope (%): 0-	-1% Lat:	43.812417	Long:		-84.376059	_	Datum: N	NAD83 HARN
Soil Map Unit Name:	Selfridge loam	y sand, 0 to 3 percent s	lopes			NWI classifi	cation:	PFO1C
Are climatic / hydrolog	ic conditions on the site	typical for this time of y	ear?	Yes X N	No (If no, ex	rplain in Remarks.	<u></u>	
Are Vegetation	, Soil	, or Hydrology	significantly disturbed		"Normal Circumsta		Yes X N	No
Are Vegetation	·	, or Hydrology	_		eeded, explain any		 -	
SUMMARY OF I		h site map showir	_		ransects, impo	ortant feature	s, etc.	
Hydrophytic Vegetati	on Present?	Yes X	No	Is the Sampled	Area			
Hydric Soil Present?			No	within a Wetlar		Yes_X	No	
Wetland Hydrology P	Present?	Yes X	No	If yes, optional V	Wetland Site ID:			<u> </u>
	•	s here or in a separate	• •					
Antecedent precipitat	tion analysis indicates c	onditions are normal pe	the WETS table.					
LIVEROLOGY								
HYDROLOGY								<u></u>
Wetland Hydrology		end: abook all that apply					mum of two required	1)
Surface Water (ed; check all that apply) Wate	er-Stained Leaves (B9)			ace Soil Cracks (nage Patterns (B [.]		
High Water Tab			itic Fauna (B13)			s Trim Lines (B16		
Saturation (A3)			Deposits (B15)			Season Water Ta		
Water Marks (B	31)	Hydr	ogen Sulfide Odor (C1)	Cray	fish Burrows (C8)	
Sediment Depo	sits (B2)		zed Rhizospheres on I		Satu	ration Visible on	Aerial Imagery (C9)	
Drift Deposits (E			ence of Reduced Iron			ited or Stressed F		
Algal Mat or Cru	` ,		ent Iron Reduction in Ti	lled Soils (C6)		morphic Position		
Iron Deposits (E			Muck Surface (C7)			llow Aquitard (D3)		
	ole on Aerial Imagery (B		r (Explain in Remarks)			otopograpic Relie		
	ated Concave Surface ([88]			<u> </u>	-Neutral Test (D5	o) 	
Field Observations:								
Surface Water Prese		_	pth (inches):					
Water Table Present		_	pth (inches):					
Saturation Present?	Yes	No X De	pth (inches):	Wet	tland Hydrology Pi	resent?	res X No_	
(includes capillary fring		aitaviaa wallaavialaba		an if a callable				
Describe Recorded L	Data (stream gauge, mo	onitoring well, aerial pho	os, previous inspection	ns), if available:				
Remarks:								

	Absolute	Dominant	Indicator	
<u>Tree Stratum</u> (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1. Fraxinus pennsylvanica	10	Yes	FACW	Number of Demiserst Species That
2.				Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
3.				Total Number of Dominant Species
4.				Across All Strata 2 (B)
5.				Percent of Dominant Species That
6.				Are OBL, FACW, or FAC: 100% (A/B)
7.				
	10	= Total Cover		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)			Total % Cover of: Multiply by:
1				OBL species 80 x 1 = 80
2.				FACW species 10 x 2 = 20
3.				FAC species 10 x 3 = 30
4				FACU species0 x 4 =0
5				UPL species 0 x 5 = 0
6				Column Totals: 100 (A) 130 (B)
7				Prevalence Index = B/A = 1.30
		= Total Cover		
Herb Stratum (Plot size: 5 ft.)				
Calamagrostis canadensis	70	Yes	OBL	Hydrophytic Vegetation Indicators:
2. Carex hystericina	10	No	OBL	X Rapid Test for Hydrophytic Vegetation
3. Rumex crispus	5	No	FAC	X Dominance Test is >50%
4. Symphyotrichum lateriflorum	5	No	FAC	X Prevalence Index is ≤ 3.0 ¹
5				Morphological Adaptations ¹ (Provide supporting
6				data in Remarks or on a separate sheet)
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10				
11				
12				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in
14				diameter at breast height (DBH), regardless of height.
15				i i i i i i i i i i i i i i i i i i i
16				Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.
17				DBH and greater than 3.20 ft (1 fil) tall.
18				Herb - All herbaceous (non-woody) plants, regardless
19				of size, and woody plants less than 3.28 ft tall.
20				
W 1 V 6	90	= Total Cover		Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: 30 ft.)			···-g····
1				Hydrophytic Vagatation Bracont 2
2				Hydrophytic Vegetation Present ?
3				Yes x No
4		Total Cover		Yes <u>x</u> No
		= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				

	iption: (Describe to th	e depth ne				the absend	ce of indicators.)	
Depth (inches)	Matrix Color (moist)	%	Color (moist)	dox Feat %	Type ¹	Loc ²	Texture	Remarks
0-4"	10YR 5/2	98	10YR 4/6	2	C		Sand	gravel inclusions
4-10"	10YR 2/1	100					Muck	
10-14"	10YR 4/2	90	10YR 5/6	10	С	M	Clay	
14-25"	10YR 6/1	 75	10YR 5/6	25	С		Clay	
25-31"	10YR 5/2	100					Sandy Clay	
					<u> </u>			
							-	
¹ Type: C=Con	ncentration, D=Depletion	n, RM=Red	uced Matrix, MS=Mask	ed Sand G	Grains. ² Loca	ation: PL=Po		
Hydric Soil Ir								olematic Hydric Soils ³ :
Histosol	(A1) pipedon (A2)	_	Stripped Matrix (S Loamy Mucky Mir				2 cm Muck	(A10) e Redox (A16)
	istic (A3)	_	Loamy Gleyed Ma					Peat or Peat (S3)
	en Sulfide (A4)	_	Depleted Matrix (I				Dark Surfac	
	d Layers (A5)	_	Redox Dark Surfa					elow Surface (S8)
	d Below Dark Surface (A11) _	Depleted Dark Su				Thin Dark S	
	ark Surface (A12) Mucky Mineral (S1)	_	Redox Depressio	ns (F8)				nese Masses (F12) Material (F21)
	Gleyed Matrix (S4)							w Dark Surface (TF12)
X Sandy F								ain in Remarks)
3Indicators of	hydrophytic vegetation	and wetlan	d hydrology must be p	resent, unl	ess disturbed	d or problem	atic.	
Restrictive La	ayer (if observed):							
Type:								
Depth (i	nches):					Hydric So	il Present?	Yes X No
Remarks:						1		

Project/Site:	Edenville Dam				City/0	County:	N	/lidland Co.		Sampling	Date:	3/16/2021
Applicant/Owner:	Four Lakes Tas	k Force			-			Star	te: MI	Sampling		dp33
Investigator(s):	E. Vander Stelt;	; B. Norris				Section	, Township, R	ange:	T.	- 16N, R01W, S	Section 01	1
Landform (hillslope, to	•			Toeslope		•	Local relie	f (concave, c	onvex, none):			
	1-2% Lat:	:	43.812	260	Long:		-84.3	376142		Datum:	: N	AD83 HARN
Soil Map Unit Name:	Pella silt	t loam			•				NWI class	= sification:		PFO1C
Are climatic / hydrolog			r this tim	ne of year?		Yes X	No	(If no, expl	— ain in Remark	(s.)		
Are Vegetation	_			significantly	disturbed				es" present?		X No	0
Are Vegetation				naturally prol					rswers in Ren			
_				nowing samplin			,	, ,		,		
								<u>, -</u>		<u> </u>		
Hydrophytic Vegetate Hydric Soil Present?		Yes Yes		No		Is the Sam within a W	-		Yes	No	X	
Wetland Hydrology		Yes		No X			onal Wetland	Site ID:				_
	lain alternative prod				!							
Antecedent precipita	ation analysis indic	ates conditions	are norn	nal per the WETS ta				ew river bed.	Desktop and	field investiga	tions indi	cated this area
was likely historic to	rested wetland but	t now does not h	ave ade	equate hydrology to s	support w	vetland cond	litions.					
LIVEROLOGY												
HYDROLOGY												
Wetland Hydrology									ndicators (mi		required)	
Primary Indicators (i		required; check	all that		: (50)				e Soil Cracks	. ,		
Surface Water High Water Ta				_Water-Stained Lea Aquatic Fauna (B1:					age Patterns (Trim Lines (B			
Saturation (A3)				_Aquatic Fauria (B1: Marl Deposits (B15					eason Water			
Water Marks (I				Hydrogen Sulfide C)			sh Burrows (C			
Sediment Depo				_Oxidized Rhizosph			(C3)		ation Visible o		ery (C9)	
Drift Deposits ((B3)			Presence of Reduc		-		Stunte	d or Stressec	Plants (D1)	-	
Algal Mat or Cı	rust (B4)			Recent Iron Reduc	tion in Til	lled Soils (C	6)	Geom	orphic Positio	n (D2)		
Iron Deposits (Thin Muck Surface					w Aquitard (D	•		
	ible on Aerial Imag			Other (Explain in R	:emarks)				opograpic Re	, ,		
	etated Concave Sui	rface (B8)					_	X FAC-N	Neutral Test (I	D5)		
Field Observations												
Surface Water Pres				Depth (inches):								
Water Table Presen				Depth (inches):				_	. =			
Saturation Present?		. No	X	Depth (inches):			Wetland Hy	drology Pres	sent?	Yes	_ No _	<u>X</u>
(includes capillary fr		an monitoring v	'all aeri	al abatas, previous i		and if availal	hia.					
Describe Recorded	Data (stream gauç	ge, monitoring w	rell, aeria	al photos, previous ir	nspection	is), if availar	ble:					
Remarks:												
No hydrology indicat	tors observed.											

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1. Fraxinus pennsylvanica	10	Yes	FACW	Number of Dominant Species That
2. Ulmus americana	5	Yes	FACW	Are OBL, FACW, or FAC: 3 (A)
3. Populus deltoides	2	No	FAC	Total Number of Dominant Species
4.				Across All Strata3(B)
5				Percent of Dominant Species That
6.				Are OBL, FACW, or FAC:
7.				
	17	= Total Cove	r	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1				OBL species 5 x 1 = 5
2				FACW species 25 x 2 = 50
3				FAC species 27 x 3 = 81
4				FACU species 0 x 4 = 0
5				UPL species 0 x 5 = 0
6				Column Totals: 57 (A) 136 (B)
7				Prevalence Index = B/A = 2.39
		= Total Cove	r	
Herb Stratum (Plot size: 5 ft.)				
1. Thalictrum dasycarpum	5	No	FACW	Hydrophytic Vegetation Indicators:
2. Symphyotrichum lateriflorum	25	Yes	FAC	Rapid Test for Hydrophytic Vegetation
3. Carex hystericina	5	No	OBL	X Dominance Test is >50%
4. Solidago gigantea	5	No	FACW	X Prevalence Index is ≤ 3.0 ¹
5				Morphological Adaptations ¹ (Provide supporting
6				data in Remarks or on a separate sheet)
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10				
11				
12				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in
14				diameter at breast height (DBH), regardless of height.
15				
16				Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.
17				J
18				Herb - All herbaceous (non-woody) plants, regardless
20				of size, and woody plants less than 3.28 ft tall.
	40	= Total Cove		Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.)		= 10tal 00vc	•	height.
1				
2				Hydrophytic Vegetation Present ?
4.				Yes x No
· -		= Total Cove		
Remarks: (Include photo numbers here or on a separate sheet.)				
ntomaino. (iniciade prioto nambero nere or on a separate sneet.)				

Depth	Matrix		Re	dox Feati	ıres			
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks
0-1"	10YR 5/2	100					Sandy Clay	
1-12"	10YR 2/2	100					Mucky Sand	dry; no hydrology
1-12	1011(2/2	100					Mucky Sand	dry, no nydrology
¹ Type: C=Con	centration, D=Depletio	n, RM=Red	uced Matrix, MS=Mask	ced Sand G	rains. ² Loca	ation: PL=Po		
Hydric Soil In								elematic Hydric Soils ³ :
Histosol		_	Stripped Matrix (S				2 cm Muck (
Black His	oipedon (A2) stic (A3)	_	Loamy Mucky Min Loamy Gleyed M					e Redox (A16) Peat or Peat (S3)
	en Sulfide (A4)	<u>-</u>	Depleted Matrix (Dark Surface	
	d Layers (A5)	_	Redox Dark Surfa					elow Surface (S8)
	d Below Dark Surface	(A11) _	Depleted Dark Su				Thin Dark Su	
	ark Surface (A12) Mucky Mineral (S1)	_	Redox Depression	ns (F8)				nese Masses (F12) Material (F21)
	Gleyed Matrix (S4)							v Dark Surface (TF12)
Gariuv C								(/
	Redox (S5)						Other (Expla	in in Remarks)
	Redox (S5)						Other (Expla	in in Remarks)
	Redox (S5)						Other (Expla	in in Remarks)
Sandy R		and wetlar	nd hydrology must be n	resent unle	ess disturbe	d or problem		in in Remarks)
Sandy R 3Indicators of	hydrophytic vegetatior	n and wetlan	nd hydrology must be p	resent, unk	ess disturbed	d or problem		in in Remarks)
Sandy R 3Indicators of		and wetlar	nd hydrology must be p	resent, unle	ess disturbed	d or problem		in in Remarks)
Sandy R 3Indicators of Restrictive La	hydrophytic vegetatior	and wetlar	id hydrology must be p	resent, unle	ess disturbed	d or problem		in in Remarks)
Sandy R 3Indicators of Restrictive La	hydrophytic vegetation ayer (if observed): chunks of wood	and wetlar	nd hydrology must be p	resent, unle	ess disturbed			in in Remarks) Yes X No
Sandy R 3Indicators of I Restrictive La Type: c Depth (ir	hydrophytic vegetation ayer (if observed): chunks of wood		nd hydrology must be p	resent, unle	ess disturbed		atic.	
Sandy R 3Indicators of Restrictive La Type: c Depth (ir	hydrophytic vegetation ayer (if observed): chunks of wood nches):	2"	nd hydrology must be p			Hydric Sc	atic. il Present?	
Sandy R 3Indicators of Restrictive La Type: c Depth (ir	hydrophytic vegetation ayer (if observed): chunks of wood nches):	2"				Hydric Sc	atic. il Present?	
Sandy R 3Indicators of Restrictive La Type: c Depth (ir	hydrophytic vegetation ayer (if observed): chunks of wood nches):	2"				Hydric Sc	atic. il Present?	
Sandy R 3Indicators of Restrictive La Type: c Depth (ir	hydrophytic vegetation ayer (if observed): chunks of wood nches):	2"				Hydric Sc	atic. il Present?	
Sandy R 3Indicators of Restrictive La Type: c Depth (ir	hydrophytic vegetation ayer (if observed): chunks of wood nches):	2"				Hydric Sc	atic. il Present?	
Sandy R 3Indicators of Restrictive La Type: c Depth (ir	hydrophytic vegetation ayer (if observed): chunks of wood nches):	2"				Hydric Sc	atic. il Present?	
Sandy R 3Indicators of Restrictive La Type: c Depth (in	hydrophytic vegetation ayer (if observed): chunks of wood nches):	2"				Hydric Sc	atic. il Present?	
Sandy R 3Indicators of Restrictive La Type: c Depth (in	hydrophytic vegetation ayer (if observed): chunks of wood nches):	2"				Hydric Sc	atic. il Present?	
Sandy R 3Indicators of Restrictive La Type: c Depth (in	hydrophytic vegetation ayer (if observed): chunks of wood nches):	2"				Hydric Sc	atic. il Present?	
Sandy R 3Indicators of Restrictive La Type: c Depth (in	hydrophytic vegetation ayer (if observed): chunks of wood nches):	2"				Hydric Sc	atic. il Present?	
Sandy R 3Indicators of Restrictive La Type: c Depth (in	hydrophytic vegetation ayer (if observed): chunks of wood nches):	2"				Hydric Sc	atic. il Present?	
Sandy R 3Indicators of Restrictive La Type: c Depth (ir	hydrophytic vegetation ayer (if observed): chunks of wood nches):	2"				Hydric Sc	atic. il Present?	
Sandy R 3Indicators of Restrictive La Type: c Depth (ir	hydrophytic vegetation ayer (if observed): chunks of wood nches):	2"				Hydric Sc	atic. il Present?	
Sandy R 3Indicators of Restrictive La Type: c Depth (ir	hydrophytic vegetation ayer (if observed): chunks of wood nches):	2"				Hydric Sc	atic. il Present?	

Project/Site:	Edenville Dam			City/County:	N	/lidland Co.		Sampling Date:	3/16/2021
Applicant/Owner:	Four Lakes Task For	ce				State:	MI	Sampling Point:	dp34
Investigator(s):	E. Vander Stelt; B. No	orris		Section	on, Township, R	ange:	T16l	N, R01W, Section (01
Landform (hillslope, to	errace, etc.):		Footslope		Local relief	f (concave, conve	x, none): c	onvex	
Slope (%): 2	2-3% Lat:	43.812	746	Long:	-84.3	374571		Datum:	NAD83 HARN
Soil Map Unit Name:	Water					N	WI classific	cation:	L1UBHh
Are climatic / hydrolog	gic conditions on the site	typical for this tim	ne of year?	Yes X	. No	(If no, explain in	Remarks.)	
Are Vegetation	, Soil	, or Hydrology	significantly	disturbed?	Are "Normal	- Circumstances" p	resent?	YesI	No X
Are Vegetation			naturally pro		(If needed, e	explain any answer	s in Remai	rks.)	
SUMMARY OF	FINDINGS Attac	— h site map sh	owing samplir	ng point location	ons, transec	ts, important	features	s, etc.	
				1		•		•	
Hydrophytic Vegetat		Yes X	No No X	-	mpled Area Wetland?		V	Na V	
Hydric Soil Present? Wetland Hydrology		Yes X	No A	-	tional Wetland S		Yes	NoX	
	ain alternative procedure				tional Wotland				
	ation analysis indicates o			able. Datapoint loca	ition is a seep ir	n the historic Wixo	m Lake be	d. Soil naturally pro	blematic as a lake
bed and presumed h	nydric due to presence c	f hydrophytic vege	etation and indicator	s of hydrology.					
HYDROLOGY									
Wetland Hydrology	/ Indicators:					Secondary Indica	tore (minin	num of two require	d)
	minimum of one is requi	red: check all that	apply)			Surface So	•		<u>u)</u>
Surface Water			Water-Stained Lea	aves (B9)		X Drainage P			
High Water Ta	ble (A2)		Aquatic Fauna (B1	13)		Moss Trim	Lines (B16	i)	
X Saturation (A3)			Marl Deposits (B1			Dry-Seasor			
Water Marks (I			_Hydrogen Sulfide		. =	Crayfish Bu			
Sediment Depo			-	neres on Living Roo	ts (C3)			Aerial Imagery (C9)	
Drift Deposits (Algal Mat or Ci			Presence of Redu	ced Iron (C4) ction in Tilled Soils	(CE)	Stunted or Geomorphi		, ,	
Iron Deposits (` '		Thin Muck Surface		(06)	Shallow Aq		` '	
	ble on Aerial Imagery (B	7)	Other (Explain in F			Microtopog			
	tated Concave Surface	· ·				FAC-Neutra			
Field Observations	S :								
Surface Water Pres	ent? Yes	No X	Depth (inches):						
Water Table Presen	t? Yes X	No	Depth (inches):	13"					
Saturation Present?	Yes X	No	Depth (inches):	4"	Wetland Hy	drology Present	? Y	es X No	
(includes capillary fr	inge)		-						
Describe Recorded	Data (stream gauge, mo	onitoring well, aeria	al photos, previous	inspections), if avai	lable:				
Remarks:									

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1				Number of Dominant Species That
2.				Are OBL, FACW, or FAC: 2 (A)
3				Total Number of Dominant Species
4				Across All Strata 2 (B)
5				Percent of Dominant Species That
6				Are OBL, FACW, or FAC: 100% (A/B)
7				
		= Total Cove	r	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1				OBL species 0 x 1 = 0
2				FACW species 7 x 2 = 14
3				FAC species 25 x 3 = 75
4				FACU species 2 x 4 = 8
5				UPL species 0 x 5 = 0
6				Column Totals: <u>34</u> (A) <u>97</u> (B)
7				Prevalence Index = B/A = 2.85
		= Total Cove	r	
Herb Stratum (Plot size: 5 ft.)				
1. Xanthium strumarium	10	Yes	FAC	Hydrophytic Vegetation Indicators:
2. Salix interior	5	<u>No</u>	FACW	Rapid Test for Hydrophytic Vegetation
3. Panicum capillare	5	<u>No</u>	FAC	X Dominance Test is >50%
4. Symphyotrichum lateriflorum	10	Yes	FAC	X Prevalence Index is ≤ 3.0 ¹
5. Mentha arvensis	2	No	FACW	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6. Oenothera biennis	2	<u>No</u>	FACU	
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10.				
11.				Definitions of Vegetation Strate.
12.				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of
14 15				height.
16				Sapling/shrub - Woody plants less than 3 inches
47				DBH and greater than 3.28 ft (1 m) tall.
40				
40				Herb - All herbaceous (non-woody) plants, regardless
20				of size, and woody plants less than 3.28 ft tall.
	34	= Total Cove	r	Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.)				height.
1				
2.				Hydrophytic Vegetation Present ?
3.				
4.				Yes x No
		= Total Cove	r	<u> </u>
Remarks: (Include photo numbers here or on a separate sheet.)				
(1111)				

Depth	iption: (Describe to th Matrix	- 1		dox Feat			,			
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Re	marks	
0-12"	7.5YR 6/3	80	10YR 5/6	20	С	PL	Clay			
12-18"	10YR 6/1	90	10YR 5/6	10			Clay			
										<u></u>
	ncentration, D=Depletion	n, RM=Red	uced Matrix, MS=Mask	ked Sand G	rains. ² Loca	tion: PL=Po	ore Lining, M=Matrix. Indicators for Pro	blamatia Uluduia C	aila ³ .	
Hydric Soil Ir Histoso			Stripped Matrix (S	S6)			2 cm Muck	_	olis .	
	pipedon (A2)	_	Loamy Mucky Mi					ie Redox (A16)		
	istic (A3)	_	Loamy Gleyed M					Peat or Peat (S3)		
	en Sulfide (A4)	_	Depleted Matrix (Dark Surfac			
	d Layers (A5) d Below Dark Surface (Redox Dark Surfa Depleted Dark Su				Polyvalue E Thin Dark S	Selow Surface (S8)		
	а веюж Багк Sunace (ark Surface (А12)		Redox Depression	, ,				nese Masses (F12)	
	Mucky Mineral (S1)	_		()				Material (F21)	,	
	Gleyed Matrix (S4)							w Dark Surface (T	- 12)	
Sandy F	Redox (S5)						Other (Expl	ain in Remarks)		
3Indicators of	hydrophytic vegetation	and wetlar	nd hydrology must be p	resent, unle	ess disturbed	or problem	atic.			
Restrictive L	ayer (if observed):									
Tyne:										
_										
Depth (i	nches):					Hydric So	oil Present?	Yes	No	<u>X</u>
Remarks:	d hydric due to hydroph	vtic vegeta	tion and indicators of h	vdrology S	oil naturally r	roblematic	hacausa datanoint is	s located in historic	lake hed	
Ooli prosumo	a flydric dde to flydropfi	yllo vogota		lyarology. O	on riaturally p	robicinatic	because datapoint is		iano bou.	

Project/Site:	Edenville Dam			City/Count	y: <u> </u>	Midland Co.	Sampling Da	ate: 3/16/2021
Applicant/Owner:	Four Lakes Task Fo	orce				State: MI	Sampling Poi	int: dp35
Investigator(s):	E. Vander Stelt; B. I	Norris		Se	ection, Township, R	ange:	T16N, R01W, Sect	tion 01
Landform (hillslope, te	rrace, etc.):		Backslope		Local relie	f (concave, convex, no	ne): convex	
Slope (%): 3-	-5% Lat:	43.8125	555	Long:	-84.3	374630	Datum:	NAD83 HARN
Soil Map Unit Name:	Ingersoll silt	loam, 0 to 3 percent	slopes			NWI cl	assification:	none
Are climatic / hydrolog	ic conditions on the s	ite typical for this time	e of year?	Yes	X No	(If no, explain in Rem	narks.)	
Are Vegetation	, Soil	, or Hydrology	significantly of	disturbed?	Are "Normal	Circumstances" prese	nt? Yes	X_No
Are Vegetation	, Soil	, or Hydrology	naturally prob	olematic?	(If needed, e	explain any answers in F	Remarks.)	
SUMMARY OF I	FINDINGS Atta	ich site map sh	owing samplin	g point loc	ations, transed	cts, important fea	tures, etc.	
The decide Mental	Po10		N- V	1- 41-				
Hydrophytic Vegetati Hydric Soil Present?	on Present?	Yes Yes	No X		e Sampled Area n a Wetland?	Yes	No	X
Wetland Hydrology F	Present?	Yes	No X		, optional Wetland	-		
	in alternative procedu	ires here or in a sepa	_					
` '	tion analysis indicates			ble.				
HYDROLOGY								
Wetland Hydrology	Indicators:					Secondary Indicators	(minimum of two req	quired)
Primary Indicators (n	ninimum of one is req	uired; check all that a	apply)			Surface Soil Cra	cks (B6)	
Surface Water			Water-Stained Leav			Drainage Patter		
High Water Tab	ole (A2)		Aquatic Fauna (B13			Moss Trim Lines		
Saturation (A3)	14)		Marl Deposits (B15			Dry-Season Wa		
Water Marks (B			Hydrogen Sulfide C		Dooto (C2)	Crayfish Burrows		(CO)
Sediment Depo Drift Deposits (F			Oxidized Rhizosphe Presence of Reduc	_	Roots (C3)	Stunted or Stres	e on Aerial Imagery	(09)
Algal Mat or Cru	•		Recent Iron Reduct		nile (C6)	Geomorphic Pos		
Iron Deposits (E			Thin Muck Surface		olis (CO)	Shallow Aquitare		
	ole on Aerial Imagery		Other (Explain in Re			Microtopograpic		
	ated Concave Surface		(=-4	,		FAC-Neutral Tes		
Field Observations:								
Surface Water Prese	ent? Yes	No X	Depth (inches):					
Water Table Present	? Yes	No X	Depth (inches):		_			
Saturation Present?	Yes	No X	Depth (inches):		Wetland Hy	drology Present?	Yes	No X
(includes capillary frin	nge)				_			
Describe Recorded [Data (stream gauge, r	nonitoring well, aeria	I photos, previous ir	nspections), if	available:			
Remarks:								

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1				Number of Dominant Species That
2.				Are OBL, FACW, or FAC: 1 (A)
3				Total Number of Dominant Species
4				Across All Strata (B)
5				Percent of Dominant Species That
6				Are OBL, FACW, or FAC: 50% (A/B)
7				
		= Total Cove	r	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1				OBL species 0 x 1 = 0
2				FACW species 0 x 2 = 0
3				FAC species 20 x 3 = 60
4				FACU species 16 _ x 4 = 64
5				UPL species <u>5</u> x 5 = <u>25</u>
6				Column Totals: <u>41</u> (A) <u>149</u> (B)
7				Prevalence Index = B/A = 3.63
		= Total Cove	r	
Herb Stratum (Plot size: 5 ft.)				
1. Daucus carota	5	No	UPL	Hydrophytic Vegetation Indicators:
2. Dichanthelium implicatum	20	Yes	FAC	Rapid Test for Hydrophytic Vegetation
3. Erigeron annuus	1	<u>No</u>	FACU	Dominance Test is >50%
4. Symphyotrichum pilosum	15	Yes	FACU	Prevalence Index is ≤ 3.0 ¹
5				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6				
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10.				
11.				Definitions of Vegetation Strate.
12.				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of
14 15				height.
16				Sapling/shrub - Woody plants less than 3 inches
47				DBH and greater than 3.28 ft (1 m) tall.
				Herb - All herbaceous (non-woody) plants, regardless
19 20				of size, and woody plants less than 3.28 ft tall.
Dichanthelium acuminatum > Dichanthelium implicatum.	41	= Total Cove	r	Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.)				height.
1				
2.				Hydrophytic Vegetation Present ?
3.				-
4.				Yes No X
		= Total Cove	r	
Remarks: (Include photo numbers here or on a separate sheet.)				
(1111)				

Depth	Matrix		Red	dox Featu	ures				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Re	marks
0-4"	10YR 5/2	100					Clay Loam		
4-18"	10YR 6/4	100	· · · · · · · · · · · · · · · · · · ·				Clay		
Type: C=Cor	ncentration, D=Depletion	n, RM=Red	uced Matrix, MS=Mask	ed Sand G	rains. ² Loca	ition: PL=Po	re Lining, M=Matrix.		
lydric Soil Ir			•				Indicators for Prob	olematic Hydric S	Soils ³ :
Histoso		_	Stripped Matrix (S				2 cm Muck (
	pipedon (A2)	_	Loamy Mucky Mir					e Redox (A16)	`
	istic (A3) en Sulfide (A4)	_	Loamy Gleyed Ma Depleted Matrix (F				Dark Surfac	Peat or Peat (S3)
	d Layers (A5)	_	Redox Dark Surfa					elow Surface (S8))
	d Below Dark Surface (A11)	Depleted Dark Su				Thin Dark S		
	ark Surface (A12)	_	Redox Depression	ns (F8)				nese Masses (F12	2)
	Mucky Mineral (S1)							Material (F21)	·= 10)
	Gleyed Matrix (S4) Redox (S5)							w Dark Surface (T ain in Remarks)	F12)
Oandy i	(00)						Other (Exple	an in Romans)	
Indicators of	hydrophytic vegetation	and wetlan	d hydrology must be p	resent, unle	ess disturbed	d or problem	atic.		
Restrictive L	ayer (if observed):								
Type:									
- · · -									
Depth (i						Harabata Ca	il Present?	Yes	No X

Project/Site:	Edenville Dan	n			City/Cou	nty:	Midland Co.		Sampling Date	: 3/15/2021
Applicant/Owner:	Four Lakes T	ask Force					State:	MI	Sampling Point	:dp36
Investigator(s):	E. Vander Ste	elt; B. Norris				Section, Township,	Range:			
Landform (hillslope,	terrace, etc.):			Toeslope		Local rel	ief (concave, conve	ex, none): <u>co</u>	oncave	
Slope (%):	0-1% La	at:	43.812	149	Long:	-84	1.380432		Datum:	NAD83 HARN
Soil Map Unit Name:	: Evart	loamy sand					N	IWI classific	ation:	none
Are climatic / hydrolo	ogic conditions or	the site typi	cal for this tim	e of year?	Ye	es X No	(If no, explain in	n Remarks.)		
Are Vegetation	, Soil	X, c	or Hydrology	significantly	disturbed?	Are "Norm	al Circumstances"	present?	Yes	No X
Are Vegetation	, Soil	, c	or Hydrology	naturally pro	blematic?	(If needed,	, explain any answe	rs in Remar	ks.)	
SUMMARY OF	FINDINGS	Attach s	ite map sh	owing samplir	ng point lo	cations, transe	ects, important	t features	s, etc.	
Lludronbudio Vonete	ation Dragont?		V V	NI-	le 4	ha Camplad Area				
Hydrophytic Vegeta Hydric Soil Present			Yes X Yes X	No No		he Sampled Area hin a Wetland?		Yes X	No	
Wetland Hydrology			Yes X	No No	-	es, optional Wetland	d Site ID:	71		
Remarks: (Exp	olain alternative pr	ocedures he	re or in a sepa	arate report.)	<u> </u>					
Antecedent precipit					able.					
HYDROLOGY										
Wetland Hydrolog		io roquirod:	obook all that	opply)			Secondary Indic			<u>'ed)</u>
Primary Indicators Surface Wate		is required,	CHECK all that	арріу) Water-Stained Lea	aves (B9)			oil Cracks (E Patterns (B1		
X High Water Ta				Aquatic Fauna (B1				Lines (B16)		
X Saturation (A3				Marl Deposits (B1				n Water Tal		
Water Marks	(B1)			Hydrogen Sulfide	Odor (C1)		Crayfish B	urrows (C8)		
Sediment Dep				Oxidized Rhizosph					erial Imagery (C	9)
Drift Deposits				Presence of Redu	, ,			Stressed P	, ,	
Algal Mat or C				Recent Iron Reduc		Soils (C6)	X Geomorph		D2)	
Iron Deposits	(เฮอ) sible on Aerial Ima	ageny (R7)	-	Thin Muck Surface Other (Explain in F				quitard (D3) grapic Relief	(D4)	
X Sparsely Vege			-	- Other (Explain in I	(cinarks)		X FAC-Neutr			
Field Observation										
Surface Water Pres		es	No X	Depth (inches):						
Water Table Prese		es X	No	Depth (inches):	5"					
Saturation Present		es X	No	Depth (inches):	surface	Wetland F	lydrology Present	? Y	es X No)
(includes capillary f				-			,			
Describe Recorded		auge, monito	ring well, aeria	al photos, previous	inspections),	if available:				
Remarks:										

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1. Acer saccharinum	20	Yes	FACW	Number of Dominant Species That
2. Thuja occidentalis	20	Yes	FACW	Are OBL, FACW, or FAC: 3 (A)
3. Rhamnus cathartica	10	Yes	FAC	Total Number of Dominant Species
4.				Across All Strata3(B)
5.				Percent of Dominant Species That
6.				Are OBL, FACW, or FAC:
7.				
	50	= Total Cove	r	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1				OBL species 0 x 1 = 0
2				FACW species 40 x 2 = 80
3				FAC species 10 x 3 = 30
4				FACU species 0 x 4 = 0
5				UPL species 0 x 5 = 0
6				Column Totals: 50 (A) 110 (B)
7				Prevalence Index = B/A = 2.20
		= Total Cove	r	
Herb Stratum (Plot size: 5 ft.)				
1				Hydrophytic Vegetation Indicators:
2				Rapid Test for Hydrophytic Vegetation
3				X Dominance Test is >50%
4				X Prevalence Index is ≤ 3.0 ¹
5				Morphological Adaptations ¹ (Provide supporting
6				data in Remarks or on a separate sheet)
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10				
11				
12				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in
14				diameter at breast height (DBH), regardless of height.
15				
16				Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.
17				J
18				Herb - All herbaceous (non-woody) plants, regardless
				of size, and woody plants less than 3.28 ft tall.
20		= Total Cove		Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.)		= 10tal 00vc	'	height.
1				
2				Hydrophytic Vegetation Present ?
				, a. op., yo rogotamom rocom r
4.				Yes x No
" -		= Total Cove	r	
Remarks: (Include photo numbers here or on a separate sheet.)				
rvemarks. (include prioto numbers nere or on a separate sneet.)				

1 Type: C=Concentration, D=Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark S Thick Dark Surface (A Sandy Mucky Mineral S Sandy Gleyed Matrix (4/1 90 4/3 100 2/1 100	educed Matrix, MS=Masked Sand Grains.	C M	Texture Remarks Silty Clay Sand Mucky Peat	
Type: C=Concentration, D= Iydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark S Thick Dark Surface (A Sandy Mucky Mineral	100 2/1 100	educed Matrix, MS=Masked Sand Grains.		Sand Mucky Peat	
Type: C=Concentration, D= Varic Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Solution Thick Dark Surface (A) Sandy Mucky Mineral	2/1 100		² Location: PL=Pol	Mucky Peat	
Type: C=Concentration, D= Iydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark S Thick Dark Surface (A Sandy Mucky Mineral			² Location: PL=Pol		
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark S Thick Dark Surface (A Sandy Mucky Mineral	=Depletion, RM=Re		² Location: PL=Pol		
ydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark S Thick Dark Surface (A Sandy Mucky Mineral	=Depletion, RM=R		² Location: PL=Pol		
ydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark S Thick Dark Surface (A Sandy Mucky Mineral	=Depletion, RM=Re		² Location: PL=Pol		
ydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark S Thick Dark Surface (A Sandy Mucky Mineral	=Depletion, RM=R		² Location: PL=Pol		
ydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark S Thick Dark Surface (A Sandy Mucky Mineral	=Depletion, RM=R		² Location: PL=Pol		
ydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark S Thick Dark Surface (A Sandy Mucky Mineral	=Depletion, RM=R		² Location: PL=Pol		
ydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark S Thick Dark Surface (A Sandy Mucky Mineral	-Depletion, RM=R		² Location: PL=Pol		
ydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark S Thick Dark Surface (A Sandy Mucky Mineral	=Depletion, RM=R		² Location: PL=Pol		
ydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark S Thick Dark Surface (A Sandy Mucky Mineral	=Depletion, RM=R		² Location: PL=Pol		
ydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark S Thick Dark Surface (A Sandy Mucky Mineral	=Depletion, RM=R		² Location: PL=Pol		
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark S Thick Dark Surface (A Sandy Mucky Mineral	-Depletion, RM=R		² Location: PL=Por		
ydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark S Thick Dark Surface (A Sandy Mucky Mineral	-Depletion, RM=Ri		Location: PL=Poi		
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark S Thick Dark Surface (A Sandy Mucky Mineral		Stripped Matrix (S6)		Indicators for Problematic Hydric Soils ³ :	
Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark S Thick Dark Surface (A Sandy Mucky Mineral		Stripped Matrix (S6)		2 cm Muck (A10)	
Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark S Thick Dark Surface (A Sandy Mucky Mineral		Loamy Mucky Mineral (F1)		Coast Prairie Redox (A16)	
Stratified Layers (A5) Depleted Below Dark S Thick Dark Surface (A Sandy Mucky Mineral		Loamy Gleyed Matrix (F2)		5 cm Mucky Peat or Peat (S3)	
Depleted Below Dark S Thick Dark Surface (A Sandy Mucky Mineral	1	X Depleted Matrix (F3) Redox Dark Surface (F6)		Dark Surface (S7) Polyvalue Below Surface (S8)	
Thick Dark Surface (A Sandy Mucky Mineral	Surface (A11)	Depleted Dark Surface (F7)		Thin Dark Surface (S9)	
		Redox Depressions (F8)		Iron-Manganese Masses (F12)	
Sandy Gleyed Matrix (Red Parent Material (F21)	
	(S4)			Very Shallow Dark Surface (TF12)	
Sandy Redox (S5)				Other (Explain in Remarks)	
Indicators of hydrophytic ve	egetation and wetl	land hydrology must be present, unless dis	sturbed or problema	atic.	
estrictive Layer (if observ		, 0, ,			
	vouj.				
Type:					
Depth (inches):			Hydric Soi	il Present? Yes X No	

Project/Site:	Edenville Dam		City	y/County:	Midland Co.		Sampling Date:	3/15/2021
Applicant/Owner:	Four Lakes Task	Force				ate: MI	Sampling Point:	dp37
Investigator(s):	E. Vander Stelt; I	3. Norris		Section, T	ownship, Range:	T16	N, R01W, Section 01	l
Landform (hillslope, te	errace, etc.):		Footslope		Local relief (concave,			
Slope (%): 2-	-3% Lat:	43.8120	80 Long		-84.380493	-	Datum: N	AD83 HARN
Soil Map Unit Name:	Evart loar	my sand				NWI classif	cation:	none
Are climatic / hydrolog	ic conditions on the	e site typical for this time	e of year?	Yes X	No (If no, exp	olain in Remarks	.)	
Are Vegetation	, Soil	X , or Hydrology	significantly disturbe		re "Normal Circumstan		Yes No	o X
Are Vegetation			naturally problemati		f needed, explain any a	answers in Rema	arks.)	
			 owing sampling poi		, transects, impo	rtant feature	s, etc.	
Hydrophytic Vegetati	on Present?	Yes	No X	Is the Sampl	ed Area			
Hydric Soil Present?		Yes X	No No	within a Wet		Yes	No X	
Wetland Hydrology F	Present?	Yes	No X	If yes, optiona	al Wetland Site ID:			-
Remarks: (Expla	in alternative proce	edures here or in a sepa	rate report.)	-!				
Antecedent precipitat	tion analysis indica	tes conditions are norma	al per the WETS table.					
HYDROLOGY								
Wetland Hydrology	Indicators:				Secondary	Indicators (mini	mum of two required)	1
, ,		equired; check all that a	(vlaq			ice Soil Cracks (<u>' </u>
Surface Water			Water-Stained Leaves (B	9)		age Patterns (B		
High Water Tab			Aquatic Fauna (B13)	,		Trim Lines (B16		
Saturation (A3)			Marl Deposits (B15)		Dry-S	Season Water Ta	able (C2)	
Water Marks (B	31)		Hydrogen Sulfide Odor (C	1)	Crayf	fish Burrows (C8)	
Sediment Depo	sits (B2)		Oxidized Rhizospheres or				Aerial Imagery (C9)	
Drift Deposits (F			Presence of Reduced Iron			ed or Stressed F		
Algal Mat or Cru			Recent Iron Reduction in ⁻	Filled Soils (C6)		norphic Position	` '	
Iron Deposits (E			Thin Muck Surface (C7)			ow Aquitard (D3)		
	ole on Aerial Image		Other (Explain in Remarks	s)		otopograpic Relie	, ,	
Sparsely Vegeta	ated Concave Surf	ace (B8)			FAC-	Neutral Test (D5	5)	
Field Observations:	:							
Surface Water Prese	ent? Yes_	No X	Depth (inches):					
Water Table Present	? Yes_	No X	Depth (inches):					
Saturation Present?	Yes	No X	Depth (inches):	v	etland Hydrology Pre	esent?	res No	Χ
(includes capillary frin								
Describe Recorded D	Data (stream gauge	e, monitoring well, aerial	photos, previous inspection	ons), if available	:			
Remarks:								

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1. Betula papyrifera	15	Yes	FACU	Number of Dominant Species That
2. Quercus alba	25	Yes	FACU	Are OBL, FACW, or FAC: 1 (A)
3. Thuja occidentalis	15	Yes	FACW	Total Number of Dominant Species
4. Rhamnus cathartica	5	No	FAC	Across All Strata3(B)
5.				Percent of Dominant Species That
6.				Are OBL, FACW, or FAC:33%(A/B)
7.				
	60	= Total Cove	r	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1				OBL species 0 x 1 = 0
2				FACW species 15 x 2 = 30
3				FAC species <u>5</u> x 3 = <u>15</u>
4				FACU species 40 x 4 = 160
5				UPL species 0 x 5 = 0
6				Column Totals: 60 (A) 205 (B)
7				Prevalence Index = B/A = 3.42
		= Total Cove	r	
Herb Stratum (Plot size: 5 ft.)				
1				Hydrophytic Vegetation Indicators:
2				Rapid Test for Hydrophytic Vegetation
3				Dominance Test is >50%
4				Prevalence Index is ≤ 3.0 ¹
5				Morphological Adaptations ¹ (Provide supporting
6				data in Remarks or on a separate sheet)
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10				
11.				Definition of Manadation Courts
12.				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of
14				height.
15				
16				Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.
17 18				<u> </u>
40				Herb - All herbaceous (non-woody) plants, regardless
20				of size, and woody plants less than 3.28 ft tall.
		= Total Cove		Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.)		- 10tai 0010		height.
1				
2				Hydrophytic Vegetation Present ?
				,
4.				Yes No X
		= Total Cove		
Remarks: (Include photo numbers here or on a separate sheet.)				
ntemains. (include prioto numbers fiere of on a separate sfieet.)				

Color (moist) % Color (moist) % Color (moist) % Type Loc Texture Remarks 0-4" 10YR 4/1 90 10YR 4/6 10 C M Sily Clay 4-11" 10YR 4/3 100	Depth	iption: (Describe to th Matrix	•		dox Feat			,	
11-18"	-		%			-	Loc ²	Texture	Remarks
11-18" 10YR 2/1 100 Mucky Clay dry	0-4"	10YR 4/1	90	10YR 4/6	10			Silty Clay	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.									
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. FLocation: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: Histosoi (A1) Stripped Matrix (S8) Histosoi (A2) Loamy Mucky Mineral (F1) Black Histic (A3) Loamy Gleyed Matrix (F2) Straffiled Lypers (A5) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (A12) Thick Dark Surface (A12) Redox Dark Surface (F7) Thick Dark Surface (A12) Redox Dark Surface (A12) Redox Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix									
Histosol (A1) Stripped Matrix (S6) 2 cm Muck (A10) Histic Epipedon (A2) Loamy Mucky Mineral (F1) Coast Prairie Redox (A16) Black Histic (A3) Loamy Gleyed Matrix (F2) 5 cm Mucky Peat or Peat (S3) Hydrogen Sulfide (A4) X Depleted Matrix (F2) 5 cm Mucky Peat or Peat (S3) Dark Surface (S7) Stratified Layers (A5) Redox Dark Surface (F6) Polyvalue Below Surface (S8) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thin Dark Surface (S9) Thick Dark Surface (A12) Redox Depressions (F8) Iron-Manganese Masses (F12) Sandy Mucky Mineral (S1) Red Parent Material (F21) Sandy Gleyed Matrix (S4) Very Shallow Dark Surface (TF12) Sandy Redox (S5) Other (Explain in Remarks) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No	11-18"	10YR 2/1	100					Mucky Clay	dry
Histosol (A1) Stripped Matrix (S6) 2 cm Muck (A10) Histic Epipedon (A2) Loamy Mucky Mineral (F1) Coast Prairie Redox (A16) Black Histic (A3) Loamy Gleyed Matrix (F2) 5 cm Mucky Peat or Peat (S3) Hydrogen Sulfide (A4) X Depleted Matrix (F2) 5 cm Mucky Peat or Peat (S3) Dark Surface (S7) Stratified Layers (A5) Redox Dark Surface (F6) Polyvalue Below Surface (S8) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thin Dark Surface (S9) Thick Dark Surface (A12) Redox Depressions (F8) Iron-Manganese Masses (F12) Sandy Mucky Mineral (S1) Red Parent Material (F21) Sandy Gleyed Matrix (S4) Very Shallow Dark Surface (TF12) Sandy Redox (S5) Other (Explain in Remarks) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No									
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Histic Epipedon (A2) Black Histic (A3) Loamy Gleyed Matrix (F2) Stratified Layers (A5) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) Displeted Below Dark Surface (A11) Depleted Dark Surface (F7) Thin Dark Surface (S9) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Medox Depressions (F8) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Medox Depressions (F8) Depleted Below Dark Surface (F7) Thin Dark Surface (S9) Iron-Manganese Masses (F12) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Medicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:			.,	acca mann, me mac.					olematic Hydric Soils ³ :
Black Histic (A3) Loamy Gleyed Matrix (F2) Stratified Layers (A5) Stratified Layers (A5) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) Depleted Below Dark Surface (A12) Thick Dark Surface (A12) Redox Depressions (F8) Iron-Manganese Masses (F12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stratified Layer (if observed): Type: Depth (inches): Hydric Soil Present? S cm Mucky Peat or Peat (S3) Dark Surface (P7) Dark Surface (S9) Iron-Manganese Masses (F12) Redox Depressions (F8) Iron-Manganese Masses (F12) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Hydric Soil Present? Yes X No Remarks:	Histosol	(A1)	_	Stripped Matrix (S	86)			2 cm Muck ((A10)
Hydrogen Sulfide (A4) X Depleted Matrix (F3) Dark Surface (S7) Stratified Layers (A5) Redox Dark Surface (F6) Polyvalue Below Surface (S8) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thin Dark Surface (S9) Thick Dark Surface (A12) Redox Depressions (F8) Iron-Manganese Masses (F12) Sandy Mucky Mineral (S1) Red Parent Material (F21) Sandy Gleyed Matrix (S4) Very Shallow Dark Surface (TF12) Sandy Redox (S5) Other (Explain in Remarks) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:			_						
Stratified Layers (A5) Redox Dark Surface (F6) Polyvalue Below Surface (S8) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thin Dark Surface (S9) Thick Dark Surface (A12) Redox Depressions (F8) Iron-Manganese Masses (F12) Sandy Mucky Mineral (S1) Red Parent Material (F21) Sandy Gleyed Matrix (S4) Very Shallow Dark Surface (TF12) Sandy Redox (S5) Other (Explain in Remarks) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:			_						
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Sandy Gleyed Matrix (S4) Sandy Redox (S5) Other (Explain in Remarks) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:			´ <u>-</u>						
Sandy Redox (S5) Other (Explain in Remarks) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:									
3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Remarks:									
Restrictive Layer (if observed): Type:	Sandy R	redox (SS)						Other (Expla	ain in Remarks)
Restrictive Layer (if observed): Type:									
Restrictive Layer (if observed): Type:									
Type:	3Indicators of	hydrophytic vegetation	and wetlan	d hydrology must be p	resent, unle	ess disturbed	or problem	atic.	
Depth (inches): Hydric Soil Present? Yes X No	Restrictive La	ayer (if observed):							
Depth (inches): Hydric Soil Present? Yes X No	Type:								
Remarks:	_								
		nches):					Hydric So	il Present?	Yes X No
Soils are significantly disturbed due to sediment deposits from recent prior flooding; nistoric wetland soils are located at 11 inches but thoroughly dry.		:::	!:	dan asita fuana na asat n					b t th
	Soils are signi	ilicantly disturbed due to	o seaiment	deposits from recent p	nor nooding	g, nistoric we	lianu solis a	re located at 11 inch	es but thoroughly dry.

Project/Site:	Edenville Dam		City/County:	Midland Co.	Sampling D	ate: 3/15/2021
Applicant/Owner:	Four Lakes Task Force			State	e: MI Sampling Po	oint: dp38
Investigator(s):	E. Vander Stelt; B. Norri	is	Secti	on, Township, Range:	T16N, R01W, Sec	ction 01
Landform (hillslope, te	errace, etc.):	Shoulder		Local relief (concave, con	nvex, none): convex	
Slope (%): 0-	-1% Lat:	43.811192	Long:	-84.379714	Datum:	NAD83 HARN
Soil Map Unit Name:	Ingersoll silt loan	m, 0 to 3 percent slopes			NWI classification:	none
Are climatic / hydrolog	jic conditions on the site ty	pical for this time of year?	Yes	X No (If no, explain	in in Remarks.)	
Are Vegetation	X, SoilX	, or Hydrologysignification	antly disturbed?	Are "Normal Circumstance	es" present? Yes	No X
Are Vegetation	, Soil	, or Hydrologynaturall	ly problematic?	(If needed, explain any ans	wers in Remarks.)	
SUMMARY OF I	FINDINGS Attach	site map showing sam	pling point locati	ons, transects, importa	ant features, etc.	
			<u> </u>	-		
Hydrophytic Vegetati Hydric Soil Present?				ampled Area · Wetland?	Yes No	X
Wetland Hydrology F		Yes No		otional Wetland Site ID:	163	
		here or in a separate report.)			-	
		nditions are normal per the WE	TS table.			
	,					
I						
L						
HYDROLOGY						
Wetland Hydrology		_			dicators (minimum of two re	equired)
	minimum of one is required				Soil Cracks (B6)	
Surface Water			d Leaves (B9)		ge Patterns (B10)	
High Water Tab Saturation (A3)		Aquatic Faun Marl Deposits			rim Lines (B16) ason Water Table (C2)	
Water Marks (E			Ifide Odor (C1)		n Burrows (C8)	
Sediment Depo			zospheres on Living Ro		ion Visible on Aerial Imagery	/ (C9)
Drift Deposits (I			Reduced Iron (C4)		or Stressed Plants (D1)	,
Algal Mat or Cru	ust (B4)	Recent Iron F	Reduction in Tilled Soils	(C6) Geomo	rphic Position (D2)	
Iron Deposits (E		Thin Muck Su			Aquitard (D3)	
	ole on Aerial Imagery (B7)		n in Remarks)		pograpic Relief (D4)	
Sparsely Veget	ated Concave Surface (B8	3)		FAC-Ne	eutral Test (D5)	
Field Observations						
Surface Water Prese		No X Depth (inch				
Water Table Present	t? Yes	No X Depth (inch				
Saturation Present?	Yes	No X Depth (inch	es):	Wetland Hydrology Prese	ent? Yes	NoX
(includes capillary frii						
Describe Recorded I	Data (stream gauge, moni	toring well, aerial photos, previ	ious inspections), if ava	ilable:		
Remarks:						

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1				Number of Dominant Species That
2				Are OBL, FACW, or FAC: 0 (A)
3				Total Number of Dominant Species
4				Across All Strata 0(B)
5				Percent of Dominant Species That
6				Are OBL, FACW, or FAC: 0% (A/B)
7				
		= Total Cover	r	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1				OBL species 0 x 1 = 0
2				FACW species 0 x 2 = 0
3				FAC species 0 x 3 = 0
4				FACU species 0 x 4 = 0
5				UPL species 0 x 5 = 0
6				Column Totals: 0 (A) 0 (B)
7				Prevalence Index = B/A = 0.00
		= Total Cover	r	
Herb Stratum (Plot size: 5 ft.)				
1				Hydrophytic Vegetation Indicators:
2				Rapid Test for Hydrophytic Vegetation
3				Dominance Test is >50%
4				Prevalence Index is ≤ 3.0 ¹
5				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6				
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9.				be present, unless disturbed or problematic.
10.				
11				Definitions of Vegetation Strata:
-				_
13 14	-			Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of
15				height.
16				Sapling/shrub - Woody plants less than 3 inches
47				DBH and greater than 3.28 ft (1 m) tall.
40				
19				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
20				or size, and woody plants less than 3.26 it tall.
		= Total Cover		Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.)				height.
1				
2.				Hydrophytic Vegetation Present ?
3.				
4.				Yes No_X_
		= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				
No vegetation; significantly disturbed from prior flooding with no chance to re-est	ablish yet			

Depth	Matrix		Red	dox Featu	ıres				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Re	marks
0-1"	10YR 5/3	100					Sandy Clay		
1-2"	10YR 4/3	100					Silty Clay		
								-	
Type: C=Cor	ncentration, D=Depletio	n, RM=Redi	uced Matrix, MS=Mask	ed Sand G	rains. ² Loca	tion: PL=Po			
lydric Soil Ir							Indicators for Prob	_	Soils ³ :
Histosol		_	Stripped Matrix (S				2 cm Muck (
	pipedon (A2) istic (A3)	_	Loamy Mucky Mir Loamy Gleyed Ma					e Redox (A16) Peat or Peat (S3)
	en Sulfide (A4)	_	Depleted Matrix (F				Dark Surfac)
	d Layers (A5)	_	Redox Dark Surfa					elow Surface (S8)	1
Deplete	d Below Dark Surface ((A11)	Depleted Dark Su	ırface (F7)			Thin Dark S	urface (S9)	
	ark Surface (A12)	_	Redox Depression	ns (F8)				nese Masses (F12	2)
	Mucky Mineral (S1)							Material (F21)	E40)
	Gleyed Matrix (S4) Redox (S5)							w Dark Surface (T ain in Remarks)	F12)
	,							,	
Indicators of	hydrophytic vegetation	and wetlan	d hydrology must be p	resent, unle	ess disturbed	d or problem	atic.		
Restrictive L	ayer (if observed):								
Type: I	Hard pan dry silty clay								
5 4 4	in ab a a \.	2 inches				Hydric So	il Present?	Vaa	
Depth (i	nches). 2	. IIICII C 3				Injuit 30	II FIESEIIL!	Yes	No X

Project/Site:	Edenville Dam			City/County:		Midland Co.	Sampling Date:	3/15/2021
Applicant/Owner:	Four Lakes Task F	orce				State: MI	Sampling Point:	dp39
Investigator(s):	E. Vander Stelt; B.	Norris		Sectio	n, Township, f	Range:	T16N, R01W, Section	01
Landform (hillslope, t	terrace, etc.):		Slough		Local relie	ef (concave, convex, non	e): concave	
Slope (%):	0-1% Lat:	43.811	107	Long:	-84	.379842	Datum:	NAD83 HARN
Soil Map Unit Name:	Ingersoll silt	t loam, 0 to 3 percen	t slopes			NWI cla	assification:	none
Are climatic / hydrolo	ogic conditions on the s	site typical for this tim	ne of year?	Yes X	No	(If no, explain in Rem	arks.)	
Are Vegetation	X , Soil	X, or Hydrology	significantly	disturbed?	Are "Norma	— al Circumstances" presen	it? Yes	No X
Are Vegetation		, or Hydrology			(If needed,	explain any answers in R	emarks.)	
SUMMARY OF					ns. transe	cts, important feat	ures. etc.	
				<u> </u>				
Hydrophytic Vegeta		Yes X Yes X	No	Is the Sai within a \	mpled Area	Vac	V No	
Hydric Soil Present Wetland Hydrology		Yes X Yes X	No	-	wetiand? ional Wetland	_	No	
	lain alternative procedu				onal Welland			
	ation analysis indicates			able.				
HYDROLOGY								
Wetland Hydrolog	y Indicators:					Secondary Indicators (minimum of two require	 ed)
Primary Indicators ((minimum of one is req	quired; check all that	apply)			Surface Soil Crac	cks (B6)	
Surface Water	r (A1)		Water-Stained Lea	aves (B9)		Drainage Pattern	s (B10)	
X High Water Ta			_Aquatic Fauna (B1			Moss Trim Lines		
X Saturation (A3			Marl Deposits (B1			Dry-Season Wate		
Water Marks (Hydrogen Sulfide	Odor (C1) neres on Living Root	o (C3)	Crayfish Burrows	(C8) on Aerial Imagery (C9	N
Sediment Dep Drift Deposits			Presence of Redu	_	s (C3)	Stunted or Stress)
Algal Mat or C				ction in Tilled Soils (C6)	X Geomorphic Posi		
Iron Deposits			Thin Muck Surface		00)	Shallow Aquitard		
	ible on Aerial Imagery	(B7)	Other (Explain in F			Microtopograpic		
Sparsely Vege	etated Concave Surfac	ce (B8)	-			X FAC-Neutral Tes		
Field Observations	s:							
Surface Water Pres	sent? Yes	No X	Depth (inches):					
Water Table Preser	nt? Yes	X No	Depth (inches):	10"				
Saturation Present?	? Yes	X No	Depth (inches):	surface	Wetland H	ydrology Present?	Yes X No	
(includes capillary fi								
Describe Recorded	Data (stream gauge,	monitoring well, aeria	al photos, previous	inspections), if avail	able:			
Remarks:								

	Absolute	Dominant	Indicator	
<u>Tree Stratum</u> (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1				Number of Dominant Species That
2.				Are OBL, FACW, or FAC: 1 (A)
3				Total Number of Dominant Species
4				Across All Strata 1 (B)
5				Percent of Dominant Species That
6				Are OBL, FACW, or FAC: 100% (A/B)
7				
		= Total Cove	r	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1				OBL species 0 x 1 = 0
2				FACW species 10 x 2 = 20
3				FAC species 0 x 3 = 0
4				FACU species 0 x 4 = 0
5				UPL species 0 x 5 = 0
6				Column Totals: 10 (A) 20 (B)
7				Prevalence Index = B/A = 2.00
		= Total Cove	r	
Herb Stratum (Plot size: 5 ft.)				
1. Cornus alba	10	Yes	FACW	Hydrophytic Vegetation Indicators:
2				X Rapid Test for Hydrophytic Vegetation
3				X Dominance Test is >50%
4				X Prevalence Index is ≤ 3.0 ¹
5				Morphological Adaptations ¹ (Provide supporting
6				data in Remarks or on a separate sheet)
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10				
11				
12				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in
14				diameter at breast height (DBH), regardless of height.
15				
16				Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.
17				DETTAIN GROUND WAR SIZE IN (TIM) tall.
18				Herb - All herbaceous (non-woody) plants, regardless
19				of size, and woody plants less than 3.28 ft tall.
20				
Wasaki Vina Chatum (DL)	10	= Total Cove	r	Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: 30 ft.)				3
1				Hydrophytic Vegetation Present ?
3.				Trydrophytic vegetation resent :
3				Yes x No
		= Total Cove	<u> </u>	163 <u>X</u> 110
		- TOTAL COVE		
Remarks: (Include photo numbers here or on a separate sheet.)				

Depth	Matrix		Red	dox Featu	ıres				
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Re	marks
0-4"	10YR 4/3	100					Sand		
4-16"	10YR 4/2	100					Sand		
								,	
								-	
Type: C=Con	centration, D=Depletion	n, RM=Red	uced Matrix, MS=Mask	ed Sand G	rains. ² Loca	ation: PL=Po	re Lining, M=Matrix.		
lydric Soil In			·				Indicators for Pro		Soils ³ :
Histosol		_	Stripped Matrix (S				2 cm Muck		
	pipedon (A2)	_	Loamy Mucky Mir					ie Redox (A16)	`
Black Hi	en Sulfide (A4)	_	Loamy Gleyed Ma Depleted Matrix (F				Dark Surfac	Peat or Peat (S3)
	d Layers (A5)	_	Redox Dark Surfa					Below Surface (S8))
	•			` ,				` '	
Depleted	d Below Dark Surface (A	A11)	Depleted Dark Su	ırface (F7)			Thin Dark S	Surface (S9)	
Thick Da	ark Surface (A12)	A11)	Depleted Dark Su Redox Depression				Iron-Manga	nese Masses (F12	2)
Thick Da	ark Surface (A12) Nucky Mineral (S1)	A11) _ _					Iron-Manga Red Parent	nese Masses (F12 Material (F21)	
Thick Da Sandy M Sandy G	ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4)	A11)					Iron-Manga Red Parent Very Shallo	nese Masses (F12 Material (F21) w Dark Surface (T	
Thick Da Sandy M Sandy G	ark Surface (A12) Nucky Mineral (S1)	A11)					Iron-Manga Red Parent Very Shallo	nese Masses (F12 Material (F21)	
Thick Da Sandy M Sandy G	ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4)	A11) _					Iron-Manga Red Parent Very Shallo	nese Masses (F12 Material (F21) w Dark Surface (T	
Thick Da Sandy M Sandy G Sandy R	ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4)	_	Redox Depressio	ns (F8)	ess disturbed	d or problem	Iron-Manga Red Parent Very Shallo Other (Expl	nese Masses (F12 Material (F21) w Dark Surface (T	
Thick Da Sandy M Sandy G Sandy R	ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5)	_	Redox Depressio	ns (F8)	ess disturbed	d or problema	Iron-Manga Red Parent Very Shallo Other (Expl	nese Masses (F12 Material (F21) w Dark Surface (T	
Thick Da Sandy M Sandy G Sandy R Bindicators of Restrictive La	ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) hydrophytic vegetation ayer (if observed):	and wetlan	Redox Depression	ns (F8)	ess disturbed	d or problem	Iron-Manga Red Parent Very Shallo Other (Expl	nese Masses (F12 Material (F21) w Dark Surface (T	
Thick Da Sandy M Sandy G Sandy R Bindicators of Restrictive La Type:	ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) hydrophytic vegetation ayer (if observed):	and wetlan	Redox Depression	ns (F8)	ess disturbed		Iron-Manga Red Parent Very Shallo Other (Expl	nese Masses (F12 Material (F21) w Dark Surface (T ain in Remarks)	F12)
Thick Da Sandy M Sandy G Sandy R SIndicators of Restrictive La Type: Depth (ir	ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) hydrophytic vegetation ayer (if observed):	and wetlan	Redox Depression	ns (F8)	ess disturbed	d or problems	Iron-Manga Red Parent Very Shallo Other (Expl	nese Masses (F12 Material (F21) w Dark Surface (T	
Thick Da Sandy M Sandy G Sandy R Bindicators of Restrictive La Type: Depth (in	ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) hydrophytic vegetation ayer (if observed):	and wetlan	Redox Depression	ns (F8)	ess disturbed		Iron-Manga Red Parent Very Shallo Other (Expl	nese Masses (F12 Material (F21) w Dark Surface (T ain in Remarks)	F12)
Thick Da Sandy M Sandy G Sandy R Indicators of Restrictive La Type: Depth (in	ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) hydrophytic vegetation ayer (if observed):	and wetlan	Redox Depression	ns (F8)	ess disturbed		Iron-Manga Red Parent Very Shallo Other (Expl	nese Masses (F12 Material (F21) w Dark Surface (T ain in Remarks)	F12)
Thick Da Sandy M Sandy G Sandy R Indicators of Restrictive La Type: Depth (in	ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) hydrophytic vegetation ayer (if observed):	and wetlan	Redox Depression	ns (F8)	ess disturbed		Iron-Manga Red Parent Very Shallo Other (Expl	nese Masses (F12 Material (F21) w Dark Surface (T ain in Remarks)	F12)
Thick Da Sandy M Sandy G Sandy R SIndicators of Restrictive La Type: Depth (in	ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) hydrophytic vegetation ayer (if observed):	and wetlan	Redox Depression	ns (F8)	ess disturbed		Iron-Manga Red Parent Very Shallo Other (Expl	nese Masses (F12 Material (F21) w Dark Surface (T ain in Remarks)	F12)
Thick Da Sandy M Sandy G Sandy R Indicators of Restrictive La Type: Depth (in	ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) hydrophytic vegetation ayer (if observed):	and wetlan	Redox Depression	ns (F8)	ess disturbed		Iron-Manga Red Parent Very Shallo Other (Expl	nese Masses (F12 Material (F21) w Dark Surface (T ain in Remarks)	F12)
Thick Da Sandy M Sandy G Sandy R SIndicators of Restrictive La Type: Depth (in	ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) hydrophytic vegetation ayer (if observed):	and wetlan	Redox Depression	ns (F8)	ess disturbed		Iron-Manga Red Parent Very Shallo Other (Expl	nese Masses (F12 Material (F21) w Dark Surface (T ain in Remarks)	F12)
Thick Da Sandy M Sandy G Sandy R Bindicators of Restrictive La Type: Depth (in	ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) hydrophytic vegetation ayer (if observed):	and wetlan	Redox Depression	ns (F8)	ess disturbed		Iron-Manga Red Parent Very Shallo Other (Expl	nese Masses (F12 Material (F21) w Dark Surface (T ain in Remarks)	F12)
Thick Da Sandy M Sandy G Sandy R Bindicators of Restrictive La Type: Depth (in	ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) hydrophytic vegetation ayer (if observed):	and wetlan	Redox Depression	ns (F8)	ess disturbed		Iron-Manga Red Parent Very Shallo Other (Expl	nese Masses (F12 Material (F21) w Dark Surface (T ain in Remarks)	F12)
Thick Da Sandy M Sandy G Sandy R Bindicators of Restrictive La Type: Depth (in	ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) hydrophytic vegetation ayer (if observed):	and wetlan	Redox Depression	ns (F8)	ess disturbed		Iron-Manga Red Parent Very Shallo Other (Expl	nese Masses (F12 Material (F21) w Dark Surface (T ain in Remarks)	F12)
Thick Da Sandy M Sandy G Sandy R Bindicators of Restrictive La Type: Depth (in	ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) hydrophytic vegetation ayer (if observed):	and wetlan	Redox Depression	ns (F8)	ess disturbed		Iron-Manga Red Parent Very Shallo Other (Expl	nese Masses (F12 Material (F21) w Dark Surface (T ain in Remarks)	F12)
Thick Da Sandy M Sandy G Sandy R Bindicators of Restrictive La Type: Depth (in	ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) hydrophytic vegetation ayer (if observed):	and wetlan	Redox Depression	ns (F8)	ess disturbed		Iron-Manga Red Parent Very Shallo Other (Expl	nese Masses (F12 Material (F21) w Dark Surface (T ain in Remarks)	F12)
Thick Da Sandy M Sandy G Sandy R Bindicators of Restrictive La Type: Depth (in	ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) hydrophytic vegetation ayer (if observed):	and wetlan	Redox Depression	ns (F8)	ess disturbed		Iron-Manga Red Parent Very Shallo Other (Expl	nese Masses (F12 Material (F21) w Dark Surface (T ain in Remarks)	F12)
Thick Da Sandy M Sandy G Sandy R Bindicators of Restrictive La Type: Depth (in	ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) hydrophytic vegetation ayer (if observed):	and wetlan	Redox Depression	ns (F8)	ess disturbed		Iron-Manga Red Parent Very Shallo Other (Expl	nese Masses (F12 Material (F21) w Dark Surface (T ain in Remarks)	F12)
Thick Da Sandy M Sandy G Sandy R Bindicators of Restrictive La Type: Depth (in	ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) hydrophytic vegetation ayer (if observed):	and wetlan	Redox Depression	ns (F8)	ess disturbed		Iron-Manga Red Parent Very Shallo Other (Expl	nese Masses (F12 Material (F21) w Dark Surface (T ain in Remarks)	F12)

Project/Site:	Edenville Dam			City/County:	Midl	and Co.	Sampling Date:	3/16/2021
Applicant/Owner:	Four Lakes Task	k Force				State: MI	Sampling Point:	dp40
Investigator(s):	E. Vander Stelt;	B. Norris		Section	n, Township, Rang	је:Т	Γ16N, R01W, Section 0	1
Landform (hillslope, to	errace, etc.):		Shoulder		Local relief (c	oncave, convex, none): convex	
Slope (%):	3-5% Lat:	43.8111	66	Long:	-84.378	095	Datum: N	IAD83 HARN
Soil Map Unit Name:	Menomin	nee sand, 2 to 6 percent	slopes			NWI clas	ssification:	none
Are climatic / hydrolog	gic conditions on th	ne site typical for this time	e of year?	Yes X	No (If no, explain in Remar	rks.)	
Are Vegetation	, Soil	, or Hydrology	significantly di	isturbed?	Are "Normal Cir	rcumstances" present?	? YesN	lo X
Are Vegetation	, Soil	X , or Hydrology	naturally probl	lematic?	(If needed, expl	lain any answers in Re	marks.)	
SUMMARY OF	FINDINGS A	ttach site map sho	_ owing sampling	point location	ns, transects	, important featu	res, etc.	
		-		<u> </u>	•	· •		
Hydrophytic Vegetat Hydric Soil Present?		Yes Yes	No X	Is the San within a W	npled Area Vetland?	Yes	No X	
Wetland Hydrology		Yes	No X		onal Wetland Site			_
		edures here or in a sepa			J. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.			
Antecedent precipita	ation analysis indica	ates conditions are norma		le. Soil noted as na	aturally problemat	ic because it was froze	en. Assumed non-hydri	c due to lack of
hydrophytic vegetati	on and hydrology in	ndicators.						
HYDROLOGY								
Wetland Hydrology	u Indicators:				S(ninimum of two required	ıv.
		required; check all that a	(vlaar		<u></u>	Surface Soil Crack	•	1)
Surface Water		•	Water-Stained Leave	es (B9)		Drainage Patterns		
High Water Ta			Aquatic Fauna (B13)		_	Moss Trim Lines (E		
Saturation (A3))		Marl Deposits (B15)		- -	Dry-Season Water	Table (C2)	
Water Marks (Hydrogen Sulfide Od		_	Crayfish Burrows (
Sediment Depo			Oxidized Rhizospher		s (C3)		on Aerial Imagery (C9)	
Drift Deposits (, ,		Presence of Reduce	` ,	_	Stunted or Stresse	` '	
Algal Mat or Ci			Recent Iron Reduction	,) 	Geomorphic Positi	` ,	
Iron Deposits (Thin Muck Surface (. ,	_	Shallow Aquitard (I		
	ble on Aerial Image	· ` ' —	Other (Explain in Re	marks)	_	Microtopograpic Ro		
Sparsely vege	tated Concave Surf	lace (bo)				FAC-Neutral Test	(D5)	
Field Observations		,						
Surface Water Pres	-		Depth (inches):					
Water Table Presen	-		Depth (inches):					
Saturation Present?	-	No X	Depth (inches):		Wetland Hydro	ology Present?	Yes No	X
(includes capillary fr		Section well and	• • • • • • • • • • • • • • • • • • • •	the second	<u> </u>			
Describe Recorded	Data (stream gauge	ge, monitoring well, aeria	photos, previous ins	spections), it availa	ıble:			
Remarks:								

	Absolute	Dominant	Indicator	
<u>Tree Stratum</u> (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1. Quercus rubra	40	Yes	FACU	Number of Dominant Species That
2. Thuja occidentalis	10	No	FACW	Are OBL, FACW, or FAC: 0 (A)
3. Fraxinus pennsylvanica	5	No	FACW	Total Number of Dominant Species
4				Across All Strata 1 (B)
5				Percent of Dominant Species That
6				Are OBL, FACW, or FAC: 0% (A/B)
7				
	55	= Total Cover	r	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)			Total % Cover of: Multiply by:
1				OBL species 0 x 1 = 0
2				FACW species 17
3				FAC species 0 x 3 = 0
4				FACU species 40 x 4 = 160
5				UPL species0 x 5 =0
6				Column Totals: 57 (A) 194 (B)
7.				Prevalence Index = B/A = 3.40
		= Total Cover	·	
Herb Stratum (Plot size: 5 ft.)				
1. Thalictrum dasycarpum	2	No	FACW	Hydrophytic Vegetation Indicators:
2.				Rapid Test for Hydrophytic Vegetation
3.				Dominance Test is >50%
4.				Prevalence Index is ≤ 3.0 ¹
5.				Morphological Adaptations ¹ (Provide supporting
6.				data in Remarks or on a separate sheet)
7.				Problematic Hydrophytic Vegetation ¹ (Explain)
<u> </u>				
9.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10.				F,
12				Definitions of Vegetation Strata:
40				
				Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of
45				height.
16				Sapling/shrub - Woody plants less than 3 inches
				DBH and greater than 3.28 ft (1 m) tall.
40				
18 19				Herb - All herbaceous (non-woody) plants, regardless
				of size, and woody plants less than 3.28 ft tall.
20		T-1-10		
Weed Was Obstance (Dr.)	2	= Total Cover	ſ	Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: 30 ft.)			
1				Hydrophytic Vegetation Brecont 2
2				Hydrophytic Vegetation Present ?
3.				V
4				Yes No <u>X</u>
		= Total Cover	r	
Remarks: (Include photo numbers here or on a separate sheet.)				

Depth	Matrix		Red	dox Featu	ıres				
nches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Re	marks
								-	
								-	
								-	
								- 	
	ncentration, D=Depletion	, RM=Redu	uced Matrix, MS=Mask	ed Sand G	rains. ² Loca	tion: PL=Po			3
	ndicators:						Indicators for Pro	_	SOIIS :
Histosol		_	Stripped Matrix (S				2 cm Muck		
	pipedon (A2)	_	Loamy Mucky Mir					e Redox (A16)	`
	istic (A3)	_	Loamy Gleyed Ma					Peat or Peat (S3)
	en Sulfide (A4)	_	Depleted Matrix (I				Dark Surface		
	d Layers (A5) d Below Dark Surface (A	<u> </u>	Redox Dark Surfa Depleted Dark Su				Thin Dark S	elow Surface (S8)	
	ark Surface (A12)		Redox Depressio					nese Masses (F12	2)
	Mucky Mineral (S1)	_	Redox Depressio	113 (1 0)				Material (F21)	-)
	Gleyed Matrix (S4)							w Dark Surface (T	F12)
	Redox (S5)							ain in Remarks)	· · - /
dicators of	hydrophytic vegetation a	and wetland	d hydrology must be p	resent, unle	ess disturbed	or problem	atic.		
strictive L	aver (if observed):								
	ayer (if observed):								
Type: <u>I</u>									
	Frozen	ırface				Hvdric So	il Present?	Yes	No X

Project/Site:	Edenville Dam				City/C	County:		Midland Co.		Sampling Date:	3/16/2021
Applicant/Owner:	Four Lakes Task	k Force			•	-		State:	MI	Sampling Point:	dp41
Investigator(s):	E. Vander Stelt;	B. Norris				Section	, Township, F	Range:	T16	N, R01W, Section (01
Landform (hillslope, t	terrace, etc.):		Fo	otslope				ef (concave, conv	ex, none):	concave	
Slope (%):	1-3% Lat:	4	3.811027		Long:		-84.	.378127	-	Datum: 1	NAD83 HARN
Soil Map Unit Name:	Menomir	nee sand, 2 to 6 p	ercent slo	pes	•				NWI classif	ication:	none
Are climatic / hydrolo		e site typical for t	nis time o	of year?		Yes X	No	(If no, explain	in Remarks)	
Are Vegetation	_	, or Hydro		-	disturbed ^a	?	Are "Norma	—			No X
Are Vegetation		X , or Hydro					(If needed,	explain any answ	· ers in Rema	arks.)	
•	FINDINGS A										
			P 011011		lg point	. 10041101	10, 11 41100	oto, importar	it routur o		
Hydrophytic Vegeta		Yes_	X	No		Is the Sam	-				
Hydric Soil Present' Wetland Hydrology		Yes Yes	X	No		within a W	/etland? onal Wetland	Sito ID:	Yes X	No	
	lain alternative proce	_				ii yes, opuc	mai wellanu	Site ID.			<u> </u>
` '	ation analysis indica		•	. ,	able. Soil r	noted as na	turally proble	ematic because it	was frozen.	Assumed hydric du	ue to hydrophytic
vegetation and hydr			·				, ,			ŕ	
HYDROLOGY											
Wetland Hydrolog								Secondary India	cators (mini	mum of two require	<u></u>
-	(minimum of one is a	required; check a	I that app	oly)					Soil Cracks (•	<u> </u>
Surface Water				ater-Stained Lea	ves (B9)			X Drainage			
High Water Ta	able (A2)	_	Ac	quatic Fauna (B1	3)			Moss Trin	n Lines (B1	6)	
Saturation (A3	i)		Ma	arl Deposits (B15	5)			Dry-Seas	on Water Ta	able (C2)	
Water Marks (_		/drogen Sulfide C					Burrows (C8		
Sediment Dep				xidized Rhizosph		-	(C3)			Aerial Imagery (C9)	!
Drift Deposits				esence of Reduc					r Stressed I		
Algal Mat or C				ecent Iron Reduc		led Soils (C	6)	X Geomorp		• •	
Iron Deposits		(D7)		nin Muck Surface	` '				quitard (D3	,	
	sible on Aerial Image	· ` '	Ot	ther (Explain in R	(emarks)			X FAC-Neu	grapic Relie	` '	
	etated Concave Surf	lace (Bo)					1	I AC-Neu	liai Test (D		
Field Observations		NI-	V .	Death (backers)							
Surface Water Pres		No		Depth (inches):							
Water Table Preser		No		Depth (inches):			W-41111			V V N-	
Saturation Present?	-	No	<u>X</u> [Depth (inches):			Wetland Hy	ydrology Presen	it?	Yes X No	
(includes capillary fr		o monitoring wall	oorial al	hotos provious i	nonootion	o) if ovoile	blo:				
Describe Recorded	I Data (stream gaug	je, monitoring wei	, aeriai pi	notos, previous ii	nspection	is), ir avalla	bie:				
Remarks:											

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1				Number of Dominant Species That
2.				Are OBL, FACW, or FAC: 2 (A)
3				Total Number of Dominant Species
4				Across All Strata 2 (B)
5				Percent of Dominant Species That
6				Are OBL, FACW, or FAC: 100% (A/B)
7				
		= Total Cove	r	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1				OBL species 0 x 1 = 0
2				FACW species 35 x 2 = 70
3				FAC species 0 x 3 = 0
4				FACU species 0 x 4 = 0
5				UPL species 0 x 5 = 0
6				Column Totals: <u>35</u> (A) <u>70</u> (B)
7				Prevalence Index = B/A = 2.00
		= Total Cove	r	
Herb Stratum (Plot size: 5 ft.)				
1. Thalictrum dasycarpum	20	Yes	FACW	Hydrophytic Vegetation Indicators:
2. Phalaris arundinacea	15	Yes	FACW	X Rapid Test for Hydrophytic Vegetation
3				X Dominance Test is >50%
4				X Prevalence Index is ≤ 3.0 ¹
5				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6				
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10.				
11.				Definitions of Vegetation Strate.
12.				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of
14 15				height.
16				Sapling/shrub - Woody plants less than 3 inches
47				DBH and greater than 3.28 ft (1 m) tall.
40				
40				Herb - All herbaceous (non-woody) plants, regardless
20				of size, and woody plants less than 3.28 ft tall.
	35	= Total Cove		Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.)				height.
1				
2.				Hydrophytic Vegetation Present ?
3.				-
4.				Yes x No
		= Total Cove	r	<u> </u>
Remarks: (Include photo numbers here or on a separate sheet.)				
(1111)				

Depth	Matrix		Re	dox Featu	ıres				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Re	marks
								-	
								-	
								-	
								-	
	centration, D=Depletion	n, RM=Redu	uced Matrix, MS=Mask	ked Sand G	rains. ² Loca	tion: PL=Po			3
ydric Soil In							Indicators for Pro	_	Soils":
Histosol		_	Stripped Matrix (S				2 cm Muck		
Black Hi	pipedon (A2)	_	Loamy Mucky Min Loamy Gleyed M					e Redox (A16) Peat or Peat (S3)
	en Sulfide (A4)	_	Depleted Matrix (Dark Surfac		,
	d Layers (A5)	_	Redox Dark Surfa					elow Surface (S8))
	d Below Dark Surface (A11) —	Depleted Dark Su				Thin Dark S		,
	ark Surface (A12)	_	Redox Depression					nese Masses (F1	2)
Sandy M	lucky Mineral (S1)	_					Red Parent	Material (F21)	
	Gleyed Matrix (S4)							w Dark Surface (T	F12)
Sandy R	Redox (S5)						Other (Expla	ain in Remarks)	
Indicators of	hydrophytic vegetation	and wetlan	d hydrology must be p	resent, unle	ess disturbed	l or problem	atic.		
		and wettan	a riyarology mast be p	reserit, unic	oo diotarbet	Problem	uno.		
estrictive La	ayer (if observed):								
Tuna. F									
rype: r	rozen								
Depth (ir	rozen	urface				Ukudala Ca	il Present?	Yes	No X

Project/Site:	Edenville Dam			City/County:	Mic	dland Co.		Sampling Date:	3/16/2021
Applicant/Owner:	Four Lakes Task F	orce				State:	MI S	ampling Point:	dp42
Investigator(s):	E. Vander Stelt; B.	. Norris		Section	on, Township, Rar	nge:	T16N, I	R01W, Section	01
Landform (hillslope, te	errace, etc.):		Toeslope		Local relief (concave, convex,	none): cond	cave	
Slope (%): 1	-3% Lat:	43.811	464	Long:	-84.37	4418		Datum:	NAD83 HARN
Soil Map Unit Name:	Ingersoll si	It loam, 0 to 3 percer	it slopes			NV	VI classificati	on:	none
Are climatic / hydrolog	gic conditions on the	site typical for this tin	ne of year?	Yes >	(No	(If no, explain in I	Remarks.)		
Are Vegetation	, Soil	, or Hydrology	significantly	disturbed?		ircumstances" pr		Yes X	No
Are Vegetation		, or Hydrology			(If needed, exp	olain any answers	in Remarks		
SUMMARY OF						•			
				 		-, p			
Hydrophytic Vegetati		Yes X	No	-	mpled Area				
Hydric Soil Present? Wetland Hydrology F		Yes X Yes X	No	-	Wetland? tional Wetland Sit		es X	No	
			No	_ III yes, op	uonai welland Si	<u></u>			
		lures here or in a sep es conditions are norr		able.					
	,								
HYDROLOGY									
Mada ad Dada da a	. In all and and					No	(-1)
Wetland Hydrology		quired; check all that	annly)		<u> </u>	Secondary Indicat Surface Soil		•	<u>a)</u>
Surface Water		quired, check all that	Water-Stained Lea	aves (B9)		Drainage Pa			
X High Water Tak			Aquatic Fauna (B1	, ,	_	Moss Trim L			
X Saturation (A3)			Marl Deposits (B1:		_	Dry-Season		(C2)	
Water Marks (E	31)		_ Hydrogen Sulfide (Odor (C1)	_	Crayfish Bur	rows (C8)		
Sediment Depo	osits (B2)		Oxidized Rhizosph	neres on Living Roo	ts (C3)	Saturation V	isible on Aer	ial Imagery (C9)
Drift Deposits (B3)		Presence of Redu	ced Iron (C4)		Stunted or S	tressed Plan	its (D1)	
Algal Mat or Cr	rust (B4)		Recent Iron Reduc	ction in Tilled Soils	(C6)	X Geomorphic	Position (D2	2)	
Iron Deposits (•		Thin Muck Surface		_	Shallow Aqu			
	ole on Aerial Imagery		Other (Explain in F	Remarks)	_	Microtopogra		04)	
Sparsely Veget	tated Concave Surfac	ce (B8)			_	X FAC-Neutral	Test (D5)		
Field Observations	E								
Surface Water Prese		NoX	Depth (inches):						
Water Table Present	t? Yes_	X No	Depth (inches):	3"					
Saturation Present?	Yes_	X No	Depth (inches):	surface	Wetland Hydr	ology Present?	Yes	X No	
(includes capillary fri	• ,								
Describe Recorded I	Data (stream gauge,	monitoring well, aeri	al photos, previous	inspections), if avai	lable:				
Remarks:									

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1				Number of Dominant Species That
2.				Are OBL, FACW, or FAC: 4 (A)
3.				Total Number of Dominant Species
4.				Across All Strata4(B)
5.				Percent of Dominant Species That
6.				Are OBL, FACW, or FAC:
7.				-
		= Total Cover		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
Rhamnus cathartica	5	Yes	FAC	OBL species 20 x 1 = 20
2				FACW species 55 x 2 = 110
3				FAC species <u>5</u> x 3 = <u>15</u>
4				FACU species 0 x 4 = 0
5				UPL species 0 x 5 = 0
6				Column Totals: 80 (A) 145 (B)
7				Prevalence Index = B/A = 1.81
	5	= Total Cover		
Herb Stratum (Plot size: 5 ft.)				
1. Thalictrum dasycarpum	35	Yes	FACW	Hydrophytic Vegetation Indicators:
2. Solidago gigantea	15	Yes	FACW	Rapid Test for Hydrophytic Vegetation
3. Epilobium coloratum	20	Yes	OBL	X Dominance Test is >50%
4. Verbena hastata	5	No	FACW	X Prevalence Index is ≤ 3.0 ¹
5				Morphological Adaptations ¹ (Provide supporting
6				data in Remarks or on a separate sheet)
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10				
11				
12				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in
14				diameter at breast height (DBH), regardless of height.
15				-
16				Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.
17				DDIT and greater than 3.20 ft (1 fil) tall.
18				Herb - All herbaceous (non-woody) plants, regardless
19				of size, and woody plants less than 3.28 ft tall.
20				
W I VI Co. I Co. I	75	= Total Cover	•	Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: 30 ft.)				Tolgin.
1				Hydrophytic Verstation Bressyt 2
2				Hydrophytic Vegetation Present ?
3				Vac v Na
4		Tatal Cause		Yes <u>x</u> No
		= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				

	ription: (Describe to th	e depth n				the absence	ce of indicators.)	
Depth (inches)	Matrix Color (moist)	%	Color (moist)	dox Feat %	ures Type ¹	Loc ²	Texture	Remarks
0-5"	10YR 3/2	95	10YR 3/4	5	C	PL	Mucky Clay	Remains
5-16"	10YR 2/2	90	10YR 4/6	10	<u> </u>	PL	Silty Clay	
16-22"	10YR 6/2	50	10YR 5/6	50	<u>C</u>	M	Clay	
¹ Type: C=Con	ncentration, D=Depletion	n, RM=Red	uced Matrix, MS=Mask	ed Sand G	irains. ² Loca	ation: PL=Po		
Hydric Soil Ir								lematic Hydric Soils ³ :
Histosol		-	Stripped Matrix (S				2 cm Muck (A	A10) e Redox (A16)
	pipedon (A2) istic (A3)	_	Loamy Mucky Mir Loamy Gleyed Ma					Peat or Peat (S3)
	en Sulfide (A4)	_	Depleted Matrix (I				Dark Surface	
	d Layers (A5)	_	X Redox Dark Surfa					elow Surface (S8)
	d Below Dark Surface (A11) _	Depleted Dark Su				Thin Dark Su	· ·
	ark Surface (A12) Mucky Mineral (S1)	_	Redox Depressio	ns (F8)				nese Masses (F12) Material (F21)
	Gleyed Matrix (S4)							viaterial (F21) v Dark Surface (TF12)
	Redox (S5)							in in Remarks)
3Indicators of	hydrophytic vegetation	and wetlar	nd hydrology must be n	resent unl	ace disturba	d or problem	natic	
		and wettar	ia nyarology mast be p	resent, am	coo distarbet	or problem	iauc.	
Restrictive La	ayer (if observed):							
Type:								
Depth (i	inches):					Hydric So	oil Present?	Yes X No
Remarks:	_					1 -		
Romano.								

Project/Site:	Edenville Dam			City/County:	Midland C	Co.	Sampling D	ate:	3/16/2021
Applicant/Owner:	Four Lakes Task Force	Э				State: MI	Sampling Po	oint:	dp43
Investigator(s):	E. Vander Stelt; B. Nor	rris		Section	, Township, Range:		T16N, R01W, Sec	ction 01	
Landform (hillslope, te	errace, etc.):	Sho	ulder		Local relief (concav	ve, convex, non	e): convex		
Slope (%): 0)-1% Lat:	43.811469	L	ong:	-84.374376		Datum:	NAI	D83 HARN
Soil Map Unit Name:	Ingersoll silt loa	am, 0 to 3 percent slope	es			NWI cla	assification:		none
Are climatic / hydrolog	gic conditions on the site	typical for this time of y	/ear?	Yes X	No (If no,	explain in Rem	arks.)		
Are Vegetation	, Soil	, or Hydrology	_significantly distu	urbed?	Are "Normal Circums	stances" preser	t? Yes _	X No	
Are Vegetation	, Soil	, or Hydrology	_naturally problem	natic?	(If needed, explain a	ny answers in R	emarks.)		
SUMMARY OF	FINDINGS Attach	ո site map showi։	ng sampling p	oint location	ns, transects, im	portant feat	ures, etc.		
Hydrophytic Vegetat	tion Dropont?	Yes	No X	Is the Sam	unled Area				
Hydric Soil Present?			No X No X	within a W	-	Yes	No	Χ	
Wetland Hydrology F			No X	If yes, option	onal Wetland Site ID:				
Remarks: (Expla	ain alternative procedures	here or in a separate	report.)						
Antecedent precipita	ation analysis indicates co	onditions are normal pe	r the WETS table.						
HYDROLOGY									
Wetland Hydrology	/ Indicators:				Second	lary Indicators (minimum of two re	auired)	
	minimum of one is require	ed: check all that apply)			urface Soil Crad		quireu)	_
Surface Water			er-Stained Leaves	(B9)		rainage Pattern			
High Water Tal	ble (A2)	Aqua	atic Fauna (B13)		M	loss Trim Lines	(B16)		
Saturation (A3)			Deposits (B15)			ry-Season Wate			
Water Marks (E			rogen Sulfide Odor			rayfish Burrows		, (CO)	
Sediment Depo Drift Deposits (lized Rhizospheres sence of Reduced I	_	· · · · —	aturation visible tunted or Stress	on Aerial Imagery	/ (C9)	
Algal Mat or Cr	,		ent Iron Reduction			eomorphic Pos			
Iron Deposits (I			Muck Surface (C7			hallow Aquitard			
	ble on Aerial Imagery (B7		er (Explain in Rema			licrotopograpic			
Sparsely Veget	tated Concave Surface (E	38)			F	AC-Neutral Tes	t (D5)		
Field Observations	s:								
Surface Water Prese	ent? Yes	No X De	epth (inches):						
Water Table Presen	t? Yes	No X De	epth (inches):						
Saturation Present?	Yes	No X De	epth (inches):		Wetland Hydrology	Present?	Yes	No X	<u> </u>
(includes capillary fri									
Describe Recorded	Data (stream gauge, mor	nitoring well, aerial pho	tos, previous inspe	ections), if availa	ble:				
Remarks:									

	Absolute	Dominant	Indicator	
<u>Tree Stratum</u> (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1				Number of Dominant Species That
2				Are OBL, FACW, or FAC: 1 (A)
3				Total Number of Dominant Species
4				Across All Strata 4 (B)
5				Percent of Dominant Species That
6				Are OBL, FACW, or FAC: <u>25%</u> (A/B)
7		= Total Cove		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)		= Total Cove		
Sapling/Shrub Stratum (Plot size: 15 ft.) 1. Elaeagnus angustifolia	5	Yes	FACU	Total % Cover of: Multiply by: OBL species 0 x 1 = 0
Rhamnus cathartica	5	Yes	FAC	FACW species 0 x 2 = 0
2				FAC species 7 x 3 = 21
				FACU species 22 x 4 = 88
5.				UPL species 30 x 5 = 150
6.				Column Totals: 59 (A) 259 (B)
7.				Prevalence Index = B/A = 4.39
	10	= Total Cove		
Herb Stratum (Plot size: 5 ft.)				
1. Daucus carota	30	Yes	UPL	Hydrophytic Vegetation Indicators:
2. Rubus allegheniensis	15	Yes	FACU	Rapid Test for Hydrophytic Vegetation
3. Cichorium intybus	2	No	FACU	Dominance Test is >50%
4. Symphyotrichum lateriflorum	2	No	FAC	Prevalence Index is ≤ 3.0 ¹
5				Morphological Adaptations ¹ (Provide supporting
6				data in Remarks or on a separate sheet)
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9.				be present, unless disturbed or problematic.
10.				
11				Definitions of Vegetation Strata:
12				_
44				Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of
15				height.
16				Sapling/shrub - Woody plants less than 3 inches
17				DBH and greater than 3.28 ft (1 m) tall.
18				
19				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
20				,
	49	= Total Cove	r	Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 ft.)				height.
1				
2				Hydrophytic Vegetation Present ?
3				
4				Yes No <u>X</u>
		= Total Cove	r	
Remarks: (Include photo numbers here or on a separate sheet.)				

	Matrix		Red	dox Featu	ıres				
inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Re	marks
0-2"	10YR 5/2	100					Sand	gravel	inclusions
	ncentration, D=Depletion	, RM=Red	uced Matrix, MS=Mask	ed Sand G	rains. ² Loca	tion: PL=Po	re Lining, M=Matrix. Indicators for Prob	Jematic Hydric	Soils ³ ·
ydric Soil Ir Histosol			Stripped Matrix (S	36)			2 cm Muck (_	JOII
	pipedon (A2)		Loamy Mucky Mir					Redox (A16)	
Black H	istic (A3)	_	Loamy Gleyed Ma	atrix (F2)				Peat or Peat (S3)
	en Sulfide (A4)	_	Depleted Matrix (F				Dark Surface		
	d Layers (A5) d Below Dark Surface (<i>F</i>		Redox Dark Surfa Depleted Dark Su				Thin Dark S	elow Surface (S8))
	ark Surface (A12)		Redox Depression					nese Masses (F12	2)
	Mucky Mineral (S1)			, ,				Material (F21)	,
	Gleyed Matrix (S4)						Very Shallov	v Dark Surface (T	F12)
Sandy F	Redox (S5)						Other (Expla	in in Remarks)	
ndicators of	hydrophytic vegetation	and wetlan	d hydrology must be pi	resent, unle	ess disturbed	d or problema	atic.		
estrictive L	ayer (if observed):								
Type: (gravel								
Type: <u>(</u> Depth (i		ı				Hydric So	il Present?	Yes	No X

Project/Site:	Edenville Dam		C	City/County:	Gla	adwin Co.	s	Sampling Date: _	3/16/2021
Applicant/Owner:	Four Lakes Task Force					State:	MI S	ampling Point:	dp44
Investigator(s):	E. Vander Stelt; B. Norris	\$		Section	n, Township, Rai	inge:	T17N, F	R01W, Section	36
Landform (hillslope, te	errace, etc.):	Foots	lope		Local relief	(concave, conv	ex, none): conv	vex	
Slope (%): 2	2-4% Lat:	43.814024	Lor	ng:	-84.38	37593		Datum:	NAD83 HARN
Soil Map Unit Name:	Covert sand, loar	my substratum, 0 to 6	percent slopes				NWI classificati	ion:	PSS1Cx
Are climatic / hydrolog	gic conditions on the site typ	oical for this time of ye	ear?	Yes X	No	(If no, explain i	in Remarks.)		
Are Vegetation	, Soil,	or Hydrology	significantly disturb	bed?	Are "Normal C	Circumstances"	present?	Yes X	No
Are Vegetation	, Soil,	or Hydrology	_naturally problema	atic?	(If needed, ex	cplain any answe	ers in Remarks.	.)	
SUMMARY OF	FINDINGS Attach	site map showin	ig sampling po	oint location	ns, transect	ts, importan	t features, e	etc.	
Hydrophytic Vegetat	tion Present?	Yes X N	No	Is the San	npled Area				
Hydric Soil Present?			No X	within a W	-		Yes	No X	
Wetland Hydrology F			No X	If yes, option	onal Wetland Si	ite ID:			<u> </u>
Remarks: (Expla	ain alternative procedures h	ere or in a separate r	eport.)						
Antecedent precipita	ation analysis indicates cond	ditions are normal per	the WETS table.						
ı									
ı									
ı									
HYDROLOGY									
Wetland Hydrology	/ Indicators:				•	Secondary Indic	rators (minimun	m of two require	-d)
	minimum of one is required;	; check all that apply)			=		oil Cracks (B6)	-	<u>u)</u>
Surface Water			er-Stained Leaves (E	B9)			Patterns (B10)		
High Water Tal			tic Fauna (B13)		_		Lines (B16)		
Saturation (A3)			Deposits (B15)	· = · . .	=		on Water Table	(C2)	
Water Marks (E			ogen Sulfide Odor (- (00)		Burrows (C8)	!-!!anamı (CO	`
Sediment Depo Drift Deposits (zed Rhizospheres of ence of Reduced Iro	_	3 (C3)		i Visible on Aeri r Stressed Plan	ial Imagery (C9))
Algal Mat or Cr			ence of Reduced Inc ent Iron Reduction in		<u>-</u>		nic Position (D2		
Iron Deposits (I	, ,		Muck Surface (C7)		_		quitard (D3)	•)	
	ble on Aerial Imagery (B7)		r (Explain in Remarl		_		grapic Relief (D)4)	
Sparsely Veget	tated Concave Surface (B8))			- -	FAC-Neut	ral Test (D5)		
Field Observations									
Surface Water Prese	ent? Yes	No X Dep	oth (inches):						
Water Table Present	nt? Yes	No X Dep	oth (inches):						
Saturation Present?	Yes	No X Dep	oth (inches):		Wetland Hyd	Irology Present	t? Yes	No	Х
(includes capillary fri									
Describe Recorded	Data (stream gauge, monito	oring well, aerial phote	os, previous inspec	tions), if availa	ıble:				
Remarks:									
No indicators of hydr	rology observed.								

	Absolute	Dominant	Indicator	
<u>Tree Stratum</u> (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1. Populus deltoides	10	Yes	FAC	Number of Dominant Species That
2. Rhamnus cathartica	5	Yes	FAC	Are OBL, FACW, or FAC: 4 (A)
3.				Total Number of Dominant Species
4.				Across All Strata6(B)
5.				Percent of Dominant Species That
6				Are OBL, FACW, or FAC:
7				
	15	= Total Cover		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1. Elaeagnus angustifolia	10	Yes	FACU	OBL species 0 x 1 = 0
2				FACW species 15 x 2 = 30
3				FAC species 35 x 3 = 105
4				FACU species 35 x 4 = 140
5				UPL species 0 x 5 = 0
6				Column Totals: <u>85</u> (A) <u>275</u> (B)
7				Prevalence Index = B/A = 3.24
	10	= Total Cover		
Herb Stratum (Plot size: 5 ft.)				
1. Equisetum hyemale	10	Yes	FAC	Hydrophytic Vegetation Indicators:
2. Salix interior	15	Yes	FACW	Rapid Test for Hydrophytic Vegetation
3. Elaeagnus angustifolia	15	Yes	FACU	X Dominance Test is >50%
4. Solidago altissima	5	No	FACU	Prevalence Index is ≤ 3.0 ¹
5. <u>Pinus strobus</u>	5	No	FACU	Morphological Adaptations ¹ (Provide supporting
6. Carex blanda	5	No	FAC	data in Remarks or on a separate sheet)
7. Symphyotrichum lateriflorum	5	No	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must
9				be present, unless disturbed or problematic.
10				
11				
12				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in
14				diameter at breast height (DBH), regardless of height.
15				-
16				Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.
17				DBIT and greater than 3.20 ft (1 fil) tall.
18				Herb - All herbaceous (non-woody) plants, regardless
19				of size, and woody plants less than 3.28 ft tall.
20				
W 1.15 0	60	= Total Cover		Woody vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: 30 ft.)				
1				Hydrophytic Vegetation Present ?
2				Hydrophytic vegetation Fresent ?
3				Yes x No
4		- Total Cayo		1es_ <u>x</u>
		= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				

Sand Gravel inclusions Sand Gravel inclusions Sand Glay	(inches) Color (moist) % Color (moist) % 0-5" 10YR 5/3 100 5-10" 10YR 5/1 100	Marriago Sand Gravel inclusions
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. *Location: PL=Pore Lining, M=Matrix. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. *Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils*: Indicators for Problematic Hydric Soils*: Histosol (A1) Histo Eppedon (A2) Loamy Mucky Mineral (F1) Black Histic (A3) Loamy Mucky Mineral (F1) Coast Prairie Redox (A16) Black Histic (A3) Loamy Gleyed Matrix (F2) Stratified Layers (A5) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A11) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Gratlydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Loamy Mucky Mineral (F1) Black Histic (A3) Loamy Gleyed Matrix (F2) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Bladicators of hydrophytic vegetation and wetland hydrology must be present, unleaders and setting the present of	Clay d Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) cral (F1) coast Prairie Redox (A16) fix (F2) 5 cm Mucky Peat or Peat (S3) Dark Surface (S7) e (F6) Polyvalue Below Surface (S8) face (F7) Inin Dark Surface (S9) Iron-Manganese Masses (F12) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
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Type: frozen clay		
	Type: frozen clay	
Depth (inches): 10" Hydric Soil Present? Yes No X		
	Depth (inches): 10"	Hydric Soil Present? Yes No X