Natural Resources Report

Christ Community Chapel

Hudson, Ohio

Date Prepared: March 14, 2025

On Behalf Of:

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Preparation Date:

March 14, 2025

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1.0 INTRODUCTION

1.1 PROJECT LOCATION AND DESCRIPTION

CESO, Inc. (CESO) was retained by Christ Community Chapel (CCC), to perform a regulated waters delineation and prepare a report for a proposed development site located in Hudson, Summit County, Ohio. The Area of Investigation (AOI) is approximately 28.6 acres in size and consists mainly of developed land including buildings and parking lots, open lawn, and forested areas.

1.2 PURPOSE AND SCOPE

The purpose of this investigation is to identify wetlands and streams to assist in the determination of developable areas for the project. Wetlands and streams are defined by the United States Army Corps of Engineers (USACE) and the Ohio Environmental Protection Agency (OEPA) as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. In addition, within the Ohio Water Quality Standards {OAC 3745-1-02 (B) (87)}, a stream is defined as "a water body having a channel with well-defined bed and banks, either natural or artificial, that confine and conduct continuous or periodical flowing water."

2.0 METHODOLOGY

2.1 PRELIMINARY DATA REVIEW

Prior to the field investigation, published resource information pertaining to the AOI was gathered and reviewed. The information sources used to prepare this report include but were not limited to:

- U.S. Geological Survey (USGS) 7.5-minute quadrangle maps (Hudson Quadrangle);
- Soil Survey of Summit County, Ohio (USDA 2023);
- USFWS National Wetlands Inventory website (NWI);
- USGS National Hydrography Dataset (NHD);
- State of Ohio Water Quality Standards;
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (2009).

2.2 PHYSICAL RESOURCE INVESTIGATIONS

A field investigation was completed to identify and delineate potentially jurisdictional wetland boundaries in accordance with the 1987 Manual, the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Version 2.0 (Regional Supplement), and subsequent guidance. The 1987 Manual is the current Federal delineation manual used in the Clean Water Act Section 404 regulatory programs for the identification and delineation of wetlands. The approach requires positive evidence of hydrophytic vegetation, hydric soils, and wetland hydrology for the determination that an area is a wetland (Environmental Laboratory 1987). The wetland habitats identified were classified in accordance with the USFWS's "Classification of Wetlands and Deepwater Habitats of the United States" (Cowardin et al. 1979).

Streams were identified as a channel with well-defined bed and banks, either natural or artificial, that confine and conduct continuous or periodical flowing water. Streams were classified as perennial, intermittent, or ephemeral based on their permanence of flow and influence from groundwater.

Wetland boundaries and the centerline of streams were identified by consecutively numbered flags to facilitate surveying. Location data was collected using a handheld Trimble TDC150 GPS Unit. Vegetation, soil, and hydrology information for wetland and non-wetland areas were recorded on wetland field data sheets and are presented in Appendix A. Color photographs of each aquatic feature are included as Appendix B.

3.0 PRELIMINARY DATA REVIEW

3.1 TOPOGRAPHY

According to the USGS 7.5-Minute Topographic Hudson Quadrangle Map for the site in Summit County, OH, the elevation of the site is approximately 1,020-1,030 feet above mean sea level.

3.2 SOILS

Hydric soils are typical indicators of wetland habitats. A soil is considered hydric if it is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part (USDA-SCS 1991). Extended periods of inundation/saturation cause a chemical change in the soil, which is reflected in the soil color and physical characteristics of the soil. These properties can typically be observed during field investigations. In most cases, the soil colors are the diagnostic feature of a hydric soil. Hydric mineral soil will either be gleyed or have a low chroma matrix and/or bright mottles. A typical gleyed soil will have blue, green, or gray coloration directly below the A-horizon. A mottled soil with a low chroma matrix is usually indicative of a fluctuating water table (Wetland Training Institute Inc. 1989). See Appendix C for a comprehensive Custom soil report.

According to the Custom Soil Resource Report for Summit County, OH, soils within the AOI are summarized in the table below.

NRCS Soil Map Unit Name	Map Unit Symbol	Hydric Status	Hydric Rating
Canadice silty clay loam	Ca	Predominately hydric	95
Caneadea silt loam, 2 to 6 percent slopes	CcB	Predominately non-hydric	3
Chili gravelly loam, 6 to 12 percent slopes, moderately eroded	CoC2	Non-hydric	0
Ellsworth–Urban land complex, 6 to 18 percent slopes	EuC	Non-hydric	0
Geeburg silt loam, 6 to 12 percent slopes moderately eroded	GbC2	Non-hydric	0
Geeburg silt loam, 12 to 18 percent slopes, moderately eroded	GbD2	Non-hydric	0

Mahoning – Urban land complex, 0 to 2 percent slopes	Mn	Predominately non-hydric	5
Sebring silt loam, 0 to 2 percent slopes	Sb	Predominately hydric	92
Wheeling silt loam, 2 to 6 percent slopes	WrB	Non-hydric	0

3.3 WATER RESOURCES

3.3.1 National Wetland Inventory

CESO reviewed the USFWS National Wetlands Inventory (NWI) database, which depicted one (1) palustrine emergent wetland (PEM) within the AOI. Due to the scale of NWI maps and inaccuracies inherent in their preparation, most small wetlands and streams are not mapped or fully delineated. The NWI layer is displayed on the Existing Environmental Conditions figure.

3.3.2 National Hydrography Dataset

CESO reviewed the USGS National Hydrography Dataset (NHD), which depicted one (1) swamp/marsh and one (1) lake/pond within the AOI. Per a review of the information sources used to prepare this report, the project area is within the Mud Brook HUC-12 Subwatershed (041100020401) of the Cuyahoga HUC-8 Watershed (04110002). Due to the scale of NHD maps and inaccuracies inherent in their preparation, most small streams are not mapped or fully delineated. The NHD layer is displayed on the Existing Environmental Conditions figure.

3.3.3 State of Ohio Water Quality Standards

No streams were identified within the AOI. The AOI is eligible for coverage under OEPA's 401 Water Quality Certification for the nationwide permits, provided all other general and regional special terms and conditions are met.

4.0 FIELD OBSERVATIONS

Three (3) wetlands, two (2) seeps, and no streams were identified within the AOI. Wetland data forms are provided in Appendix A of this report. Color photographs of each aquatic feature are included in Appendix B. The features are depicted on Figure 3 Delineated Aquatic Features. Two (2) functioning constructed stormwater retention basins were also located within the AOI.

Wetlands

One palustrine emergent (PEM) wetland and two (2) PEM/palustrine scrub-shrub (PSS) wetland complexes were identified within this AOI. These features are summarized in the table below.

Wetland ID	Cowardin Classification	Acreage within AOI (ac)
W-1	PEM/PSS	0.10
W-2	PEM	0.04
W-3	PEM/PSS	0.15

5.0 CONCLUSIONS

CESO was retained by Christ Community Chapel (CCC) to perform a regulated waters delineation and prepare a report for a proposed development site located in Hudson, Summit County, Ohio. The AOI is approximately 28.6 acres in size and consists mainly of developed land including buildings and parking lots, open lawn, and forested areas. One (1) PEM and two (2) PEM/PSS wetlands, two (2) seeps, and no streams were identified within the AOI at the time of the site visit. Two (2) functioning constructed stormwater retention basins were also located within the AOI.

The results described in this report are the professional opinion of CESO based off of field observations at the time of the site visit on February 27, 2025. The USACE is the only agency with regulatory authority over the jurisdictional determination process.

6.0 REFERENCES

Cowardin, L.M., et.al. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*, Biological Services Program USFWS/OBS – 79/31. U.S. Fish and Wildlife Service. Washington, D.C.

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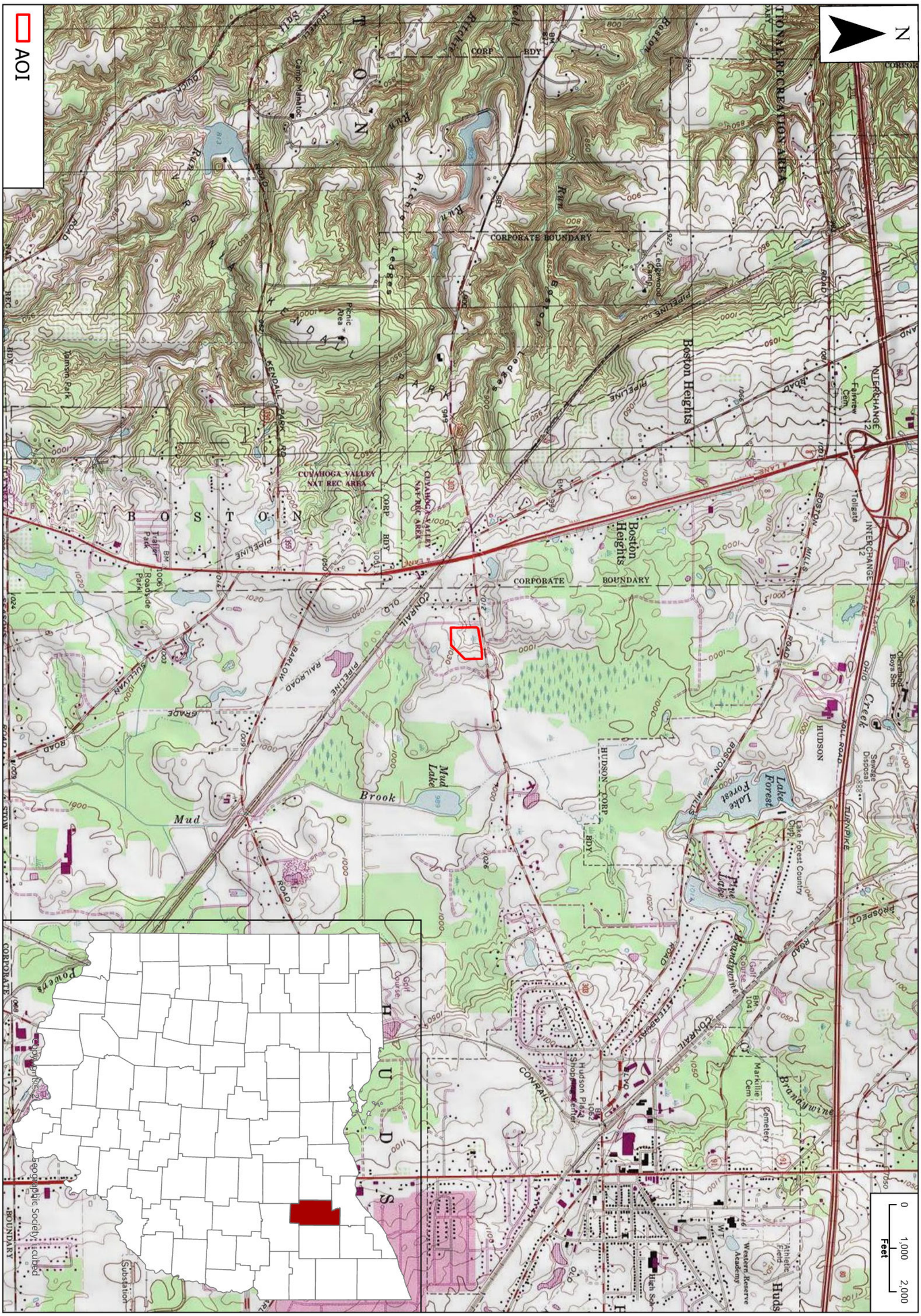
U.S. Fish and Wildlife Service. 2018. National Wetlands Inventory website. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. http://www.fws.gov/wetlands/

FIGURE 1 – TOPOGRAPHICAL LOCATION MAP



Christ Community Chapel - Hudson, OH

Topographical Location (Hudson Quad)
Hudson, Summit County, Ohio

CESO

Date: 3/13/2025
By: K. Hamlin

FIGURE 2 – EXISTING ENVIRONMENTAL CONDITIONS MAP

N

0 100 200
Feet

AOI

NHD Waterbodies
- Lake/Pond
- Swamp/Marsh

NWI Wetlands
- Freshwater Emergent Wetland
- Freshwater Forested/ Shrub Wetland
- Freshwater Pond

Maxar, Microsoft

Christ Community Chapel - Hudson, OH

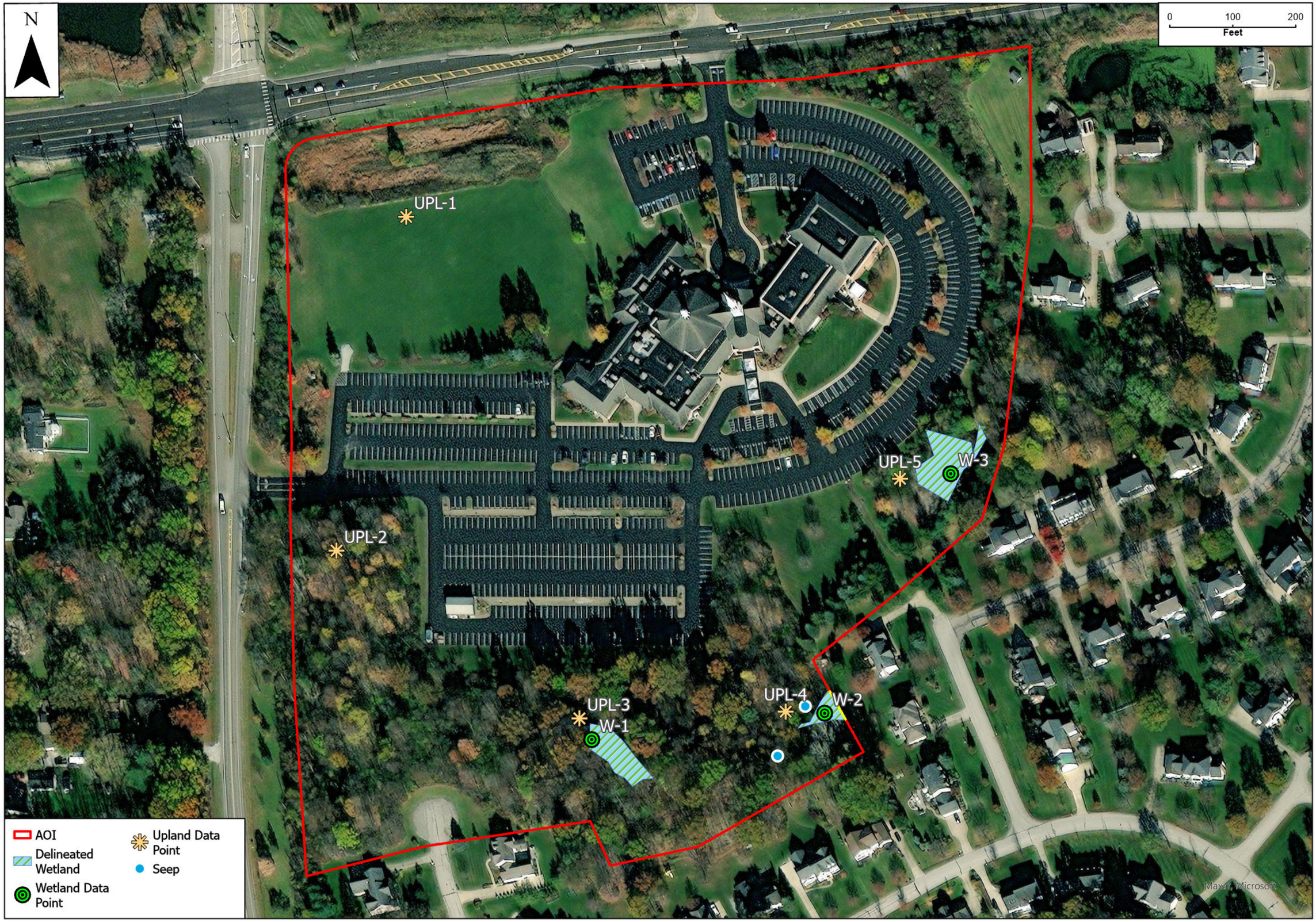
Existing Environmental Conditions

Hudson, Summit County, Ohio

CESO

Date: 3/13/2025
By: K. Hamlin

FIGURE 3 – DELINEATED AQUATIC FEATURES



Christ Community Chapel - Hudson, OH

Delineated Aquatic Features

Hudson, Summit County, Ohio

CESO

Date: 3/13/2025

By: K. Hamlin

APPENDIX A – WETLAND DETERMINATION DATA FORMS

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 9/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Christ Community Chapel City/County: Summit County Sampling Date: 2/27/2025

Applicant/Owner: CESO, Inc. State: OH Sampling Point: W-1

Investigator(s): Kerry Hamlin, Chris Winkler Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 2

Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.2298973 Long: -81.4845494 Datum: NAD 83

Soil Map Unit Name: Caneadea silt loam, 2 to 6 percent slopes (CcB) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes 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 report.)
Significant recent rainfall and snowmelt resulting in saturation, high water table, and surface water throughout AOI. These factors were excluded as indicators for wetland hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 3
Water Table Present?	Yes X	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W-1

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus incana*	10	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Ulmus rubra*	15	Yes	FAC
2. *Ulmus americana*	15	Yes	FACW
3. *Salix discolor*	10	Yes	FACW
4.			
5.			
6.			
7.			
	40	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Onoclea sensibilis*	10	Yes	FACW
2. *Boehmeria cylindrica*	10	Yes	OBL
3. *Cornus sericea*	10	Yes	FACW
4. *Dryopteris carthusiana*	8	Yes	FACW
5. *Geum canadense*	2	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	40	=Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	12	x 1 =	12
FACW species	63	x 2 =	126
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		183 (B)

Prevalence Index = B/A = 2.03

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 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 in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: W-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/1	85	10YR 5/8	15	C	M	Loamy/Clayey	Prominent redox concentrations
12-20	10YR 4/1	85	10YR 5/8	10	C	M	Loamy/Clayey	Prominent redox concentrations
			2.5YR 4/8	5	C	M		Prominent 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:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)
- ___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Red Parent Material (F21) **(outside MLRA 145)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 9/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Christ Community Chapel City/County: Summit County Sampling Date: 2/27/2025

Applicant/Owner: CESO, Inc. State: OH Sampling Point: W-2

Investigator(s): Kerry Hamlin, Chris Winkler Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 2

Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.2299903 Long: -81.4831971 Datum: NAD 83

Soil Map Unit Name: Wheeling silt loam, 2 to 6 percent slopes (WrB) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes X	No ____	

Remarks: (Explain alternative procedures here or in a separate report.)
Significant recent rainfall and snowmelt resulting in saturation, high water table, and surface water throughout AOI. These factors were excluded as indicators for wetland hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
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- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- X Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
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- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 0.5
Water Table Present?	Yes X	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W-2

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Herb Stratum (Plot size: 5')			
1. *Phragmites australis*	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 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 in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: W-2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-4	10YR 2/1	95	2.5YR 3/6	5	C	M	Loamy/Clayey	Prominent redox concentrations
4-20	10YR 5/1	90	10YR 6/8	10	C	M	Loamy/Clayey	Prominent 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:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- _X_ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- _X_ Depleted Matrix (F3)
- _X_ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)
- ___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Red Parent Material (F21) **(outside MLRA 145)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _X_ **No** ____

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 9/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Christ Community Chapel City/County: Summit County Sampling Date: 2/27/2025

Applicant/Owner: CESO, Inc. State: OH Sampling Point: W-3

Investigator(s): Kerry Hamlin, Chris Winkler Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 2

Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.2310354 Long: -81.4824537 Datum: NAD 83

Soil Map Unit Name: Wheeling silt loam, 2 to 6 percent slopes (WrB) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes 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 report.)
Significant recent rainfall and snowmelt resulting in saturation, high water table, and surface water throughout AOI. These factors were excluded as indicators for wetland hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 1
Water Table Present?	Yes X	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W-3

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus deltoides*	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Cornus amomum*	20	Yes	FACW
2. *Cornus sericea*	15	Yes	FACW
3. *Rosa palustris*	5	No	OBL
4.			
5.			
6.			
7.			
	40	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Phalaris arundinacea*	50	Yes	FACW
2. *Microstegium vimineum*	10	No	FAC
3. *Apocynum cannabinum*	10	No	FAC
4. *Onoclea sensibilis*	5	No	FACW
5. *Geum canadense*	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80	=Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	90	x 2 =	180
FAC species	35	x 3 =	105
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	130 (A)		290 (B)

Prevalence Index = B/A = 2.23

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 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 in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: W-3

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 6/2	90	10YR 5/8	10	C	M	Loamy/Clayey	Prominent redox concentrations
12-14	10YR 5/2	80	10YR 5/8	20	C	M	Loamy/Clayey	Prominent redox concentrations
14-17	10YR 5/2	80	10YR 5/6	20	C	PL/M	Loamy/Clayey	Prominent redox concentrations
17-20	10YR 5/2	85	10YR 6/6	15	C	M	Loamy/Clayey	Prominent 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:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)
- ___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Red Parent Material (F21) **(outside MLRA 145)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 9/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Christ Community Chapel City/County: Summit County Sampling Date: 2/27/2025

Applicant/Owner: CESO, Inc. State: OH Sampling Point: UPL-1

Investigator(s): Kerry Hamlin, Chris Winkler Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope %: 0

Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.2321841 Long: -81.4855734 Datum: NAD 83

Soil Map Unit Name: Ellsworth–Urban land complex, 6 to 18 percent slopes (EuC) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ____	No X	

Remarks: (Explain alternative procedures here or in a separate report.)
Significant recent rainfall and snowmelt resulting in saturation, high water table, and surface water throughout AOI. These factors were excluded as indicators for wetland hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 0.5
Water Table Present?	Yes X	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: UPL-1

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	98	Yes	FACU
2. *Glechoma hederacea*	5	No	FACU
3. *Trifolium repens*	3	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	106 =Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	106	x 4 =	424
UPL species	0	x 5 =	0
Column Totals:	106 (A)		424 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 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 in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

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

SOIL

Sampling Point: UPL-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/3	100					Loamy/Clayey	
16-20	10YR 4/3	97	10YR 5/8	3	C	M	Loamy/Clayey	Prominent 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:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
___ Iron Monosulfide (A18)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)
___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Red Parent Material (F21) **(outside MLRA 145)**
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

U.S. Army Corps of Engineers **WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region** See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R	*OMB Control #: 0710-0024, Exp: 9/30/2027* *Requirement Control Symbol EXEMPT:* *(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Christ Community Chapel City/County: Summit County Sampling Date: 2/27/2025

Applicant/Owner: CESO, Inc. State: OH Sampling Point: UPL-2

Investigator(s): Kerry Hamlin, Chris Winkler Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope %: 0

Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.2307300 Long: -81.4860136 Datum: NAD 83

Soil Map Unit Name: Caneadea silt loam, 2 to 6 percent slopes (CcB) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ____	No X	

Remarks: (Explain alternative procedures here or in a separate report.)
Significant recent rainfall and snowmelt resulting in saturation, high water table, and surface water throughout AOI. These factors were excluded as indicators for wetland hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No 0.5	Depth (inches): ____
Water Table Present?	Yes X	No 0	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No 0	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: UPL-2

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus americana*	25	Yes	FACU
2. *Quercus imbricaria*	20	Yes	FACU
3. *Gleditsia triacanthos*	20	Yes	FAC
4. *Quercus rubra*	20	Yes	FACU
5. *Acer saccharinum*	5	No	FACW
6.			
7.			
	90	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Fraxinus americana*	30	Yes	FACU
2. *Ligustrum vulgare*	10	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	40	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Toxicodendron radicans*	7	Yes	FAC
2. *Potentilla canadensis*	3	Yes	UPL
3. *Aster sp.*	3	Yes	
4. *Geum canadense*	3	Yes	FAC
5. *Trifolium repens*	2	No	FACU
6. *Glechoma hederacea*	2	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
	20	=Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 10 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 30.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	30	x 3 =	90
FACU species	109	x 4 =	436
UPL species	3	x 5 =	15
Column Totals:	147 (A)		551 (B)

Prevalence Index = B/A = 3.75

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 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 in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

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

SOIL

Sampling Point: UPL-2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/2	100					Loamy/Clayey	
5-17	10YR 4/3	100					Loamy/Clayey	
17-20	10YR 5/2	90	10YR 6/8	10	C	M	Loamy/Clayey	Prominent 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:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
___ Iron Monosulfide (A18)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)
___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Red Parent Material (F21) **(outside MLRA 145)**
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 9/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Christ Community Chapel City/County: Summit County Sampling Date: 2/27/2025

Applicant/Owner: CESO, Inc. State: OH Sampling Point: UPL-3

Investigator(s): Kerry Hamlin, Chris Winkler Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope %: 0

Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.2299882 Long: -81.4846159 Datum: NAD 83

Soil Map Unit Name: Caneadea silt loam, 2 to 6 percent slopes (CcB) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ____	No X	

Remarks: (Explain alternative procedures here or in a separate report.)
Significant recent rainfall and snowmelt resulting in saturation, high water table, and surface water throughout AOI. These factors were excluded as indicators for wetland hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 17
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: UPL-3

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Prunus serotina*	50	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	50	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Ligustrum vulgare*	30	Yes	FACU
2. *Rosa multiflora*	20	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	50	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Geum canadense*	3	No	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	3	=Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	3	x 3 =	9
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	103 (A)		409 (B)
Prevalence Index = B/A =			3.97

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 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 in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

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

SOIL

Sampling Point: UPL-3

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/2	100					Loamy/Clayey	
8-20	10YR 4/3	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)
- ___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Red Parent Material (F21) **(outside MLRA 145)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 9/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Christ Community Chapel City/County: Summit County Sampling Date: 2/27/2025

Applicant/Owner: CESO, Inc. State: OH Sampling Point: UPL-4

Investigator(s): Kerry Hamlin, Chris Winkler Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope %: 0

Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.2300045 Long: -81.4834166 Datum: NAD 83

Soil Map Unit Name: Geeburg silt loam, 6 to 12 percent slopes moderately eroded (GbC2) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)
Significant recent rainfall and snowmelt resulting in saturation, high water table, and surface water throughout AOI. These factors were excluded as indicators for wetland hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: UPL-4

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Prunus serotina*	40	Yes	FACU
2. *Gleditsia triacanthos*	40	Yes	FAC
3. *Quercus palustris*	10	No	FACW
4.			
5.			
6.			
7.			
	90	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Fragaria vesca*	4	Yes	UPL
2. *Ligustrum vulgare*	4	Yes	FACU
3. *Geum canadense*	3	Yes	FAC
4. *Oxalis stricta*	3	Yes	FACU
5. *Microstegium vimineum*	3	Yes	FAC
6. *Solidago canadensis*	3	Yes	FACU
7.			
8.			
9.			
10.			
11.			
12.			
	20	=Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 37.5% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	46	x 3 =	138
FACU species	50	x 4 =	200
UPL species	4	x 5 =	20
Column Totals:	110 (A)		378 (B)

Prevalence Index = B/A = 3.44

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 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 in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

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

SOIL

Sampling Point: UPL-4

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 4/3	100					Loamy/Clayey	
14-18	10YR 4/2	97	10YR 5/8	3	C	M	Loamy/Clayey	Prominent redox concentrations
18-20	10YR 4/2	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
___ Iron Monosulfide (A18)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ High Chroma Sands (S11) (**LRR K, L)**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) (**LRR K, L**)
___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Red Parent Material (F21) **(outside MLRA 145)**
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** X

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 9/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Christ Community Chapel City/County: Summit County Sampling Date: 2/27/2025

Applicant/Owner: CESO, Inc. State: OH Sampling Point: UPL-5

Investigator(s): Kerry Hamlin, Chris Winkler Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope %: 0

Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.2310164 Long: -81.4827469 Datum: NAD 83

Soil Map Unit Name: Wheeling silt loam, 2 to 6 percent slopes (WrB) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)
Significant recent rainfall and snowmelt resulting in saturation, high water table, and surface water throughout AOI. These factors were excluded as indicators for wetland hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: UPL-5

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	90	Yes	FACU
2. *Solidago canadensis*	5	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95 =Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	95	x 4 =	380
UPL species	0	x 5 =	0
Column Totals:	95 (A)		380 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

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

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 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 in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

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

SOIL

Sampling Point: UPL-5

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 5/3	98	10YR 5/8	2	C	M	Loamy/Clayey	Prominent redox concentrations
6-14	10YR 4/2	98	10YR 5/8	2	C	M	Loamy/Clayey	Prominent 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:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)
- ___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Red Parent Material (F21) **(outside MLRA 145)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Refusal at 14" due to stone layer.

APPENDIX B – SITE PHOTOGRAPHS

Proposed Development – Hudson, Ohio
Site Photographs

Photograph #	1
Date:	2-27-2025
Description: View of AOI facing south.	

Photograph #	2
Date:	2-27-2025
Description: View of AOI facing south.	

Proposed Development – Hudson, Ohio
Site Photographs

Photograph # 3	
Date: 2-27-2025	
Description: View of AOI facing south.	

Photograph # 4	
Date: 2-27-2025	
Description: View of AOI facing south.	

Proposed Development – Hudson, Ohio
Site Photographs

Photograph #	5
Date:	2-27-2025
Description: View of AOI facing north.	

Photograph #	6
Date:	2-27-2025
Description: View of AOI with drainage into existing stormwater basin facing west.	

Proposed Development – Hudson, Ohio
Site Photographs

Photograph #	7
Date:	2-27-2025
Description: View of AOI with existing stormwater basin facing south.	

Photograph #	8
Date:	2-27-2025
Description: View of AOI with existing stormwater basin facing west.	

Proposed Development – Hudson, Ohio
Site Photographs

Photograph # 9	
Date: 2-27-2025	
Description: View of AOI with existing stormwater basin facing south.	

Photograph # 10	
Date: 2-27-2025	
Description: View of AOI with existing stormwater basin facing west.	

Photograph #	11
Date:	2-27-2025
Description: View of wetland W-1 facing north.	

Photograph #	12
Date:	2-27-2025
Description: View of wetland W-1 facing south.	

Photograph #	13
Date:	2-27-2025
Description: View of wetland W-1 facing east.	

Photograph #	14
Date:	2-27-2025
Description: View of wetland W-1 facing west.	

Photograph #	15
Date:	2-27-2025
Description: View of wetland W-2 facing north.	

Photograph #	16
Date:	2-27-2025
Description: View of wetland W-2 facing south.	

Photograph #	17
Date:	2-27-2025
Description: View of wetland W-2 facing east.	

Photograph #	18
Date:	2-27-2025
Description: View of wetland W-2 facing west.	

Photograph #	19
Date:	2-27-2025
Description: View of wetland W-3 facing north.	

Photograph #	20
Date:	2-27-2025
Description: View of wetland W-3 facing south.	

Proposed Development – Hudson, Ohio
Site Photographs

Photograph #	21
Date:	2-27-2025
Description: View of wetland W-3 facing east.	

Photograph #	22
Date:	2-27-2025
Description: View of wetland W-3 facing west.	

Proposed Development – Hudson, Ohio
Site Photographs

Photograph #	23
Date:	2-27-2025
Description: View of upland point UPL-1.	

Photograph #	24
Date:	2-27-2025
Description: View of upland point UPL-2.	

Proposed Development – Hudson, Ohio
Site Photographs

Photograph # 25	
Date: 2-27-2025	
Description: View of upland point UPL-3.	

Photograph # 26	
Date: 2-27-2025	
Description: View of upland point UPL-4.	

Proposed Development – Hudson, Ohio
Site Photographs

Photograph #	27
Date:	2-27-2025
Description: View of upland point UPL-5.	

Photograph #	28
Date:	2-27-2025
Description: View of seep 1.	

Proposed Development – Hudson, Ohio
Site Photographs

Photograph #	29
Date:	2-27-2025
Description: View of seep 2.	

APPENDIX C – SOIL MAP AND DESCRIPTIONS

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Summit County, Ohio

February 25, 2025

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:2,790 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Summit County, Ohio
Survey Area Data: Version 21, Aug 29, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 12, 2020—Sep 21, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ca	Canadice silty clay loam	0.1	0.2%
CcB	Caneadea silt loam, 2 to 6 percent slopes	14.0	49.2%
CoC2	Chili gravelly loam, 6 to 12 percent slopes, moderately eroded	2.1	7.5%
EuC	Ellsworth-Urban land complex, 6 to 18 percent slopes	2.3	8.1%
GbC2	Geeburg silt loam, 6 to 12 percent slopes, moderately eroded	4.4	15.3%
GbD2	Geeburg silt loam, 12 to 18 percent slopes, moderately eroded	0.1	0.3%
Mn	Mahoning-Urban land complex, 0 to 2 percent slopes	3.0	10.5%
Sb	Sebring silt loam, 0 to 2 percent slopes	0.4	1.4%
WrB	Wheeling silt loam, 2 to 6 percent slopes	2.1	7.4%
Totals for Area of Interest		**28.6**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different

management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Summit County, Ohio

Ca—Canadice silty clay loam

Map Unit Setting

National map unit symbol: wpsl
Elevation: 590 to 1,970 feet
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 48 to 54 degrees F
Frost-free period: 140 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition

Canadice and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canadice

Setting

Landform: Depressions on terraces
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Clayey lacustrine deposits

Typical profile

H1 - 0 to 9 inches: silty clay loam
H2 - 9 to 38 inches: silty clay
H3 - 38 to 60 inches: silty clay

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water supply, 0 to 60 inches: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D
Ecological site: F139XY012OH - Wet Acidic Depression
Forage suitability group: Unnamed (G139XYC-2OH)
Other vegetative classification: Unnamed (G139XYC-2OH)
Hydric soil rating: Yes

Minor Components

Caneadea

Percent of map unit: 5 percent
Landform: Rises
Hydric soil rating: No

CcB—Caneadea silt loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: wpsn
Elevation: 590 to 1,970 feet
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 48 to 54 degrees F
Frost-free period: 140 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition

Caneadea and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Caneadea

Setting

Landform: Terraces
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Clayey lacustrine deposits

Typical profile

H1 - 0 to 7 inches: silt loam
H2 - 7 to 43 inches: silty clay
H3 - 43 to 60 inches: silty clay loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Ecological site: F139XY002OH - Moist Calcareous Drift Flats
Forage suitability group: Unnamed (G139XYC-2OH)
Other vegetative classification: Unnamed (G139XYC-2OH)
Hydric soil rating: No

Minor Components

Soils with a silt mantle
Percent of map unit: 4 percent

Geeburg
Percent of map unit: 4 percent
Landform: Moraines, till plains

Glenford
Percent of map unit: 4 percent
Landform: Terraces, lake plains

Canadice
Percent of map unit: 3 percent
Landform: Drainageways on terraces, depressions on terraces
Hydric soil rating: Yes

CoC2—Chili gravelly loam, 6 to 12 percent slopes, moderately eroded

Map Unit Setting
National map unit symbol: wpt4
Elevation: 700 to 1,160 feet
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 48 to 54 degrees F
Frost-free period: 133 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition
Chili and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chili

Setting
Landform: Terraces, kames
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy outwash

Typical profile
H1 - 0 to 9 inches: gravelly loam
H2 - 9 to 42 inches: gravelly sandy loam
H4 - 42 to 60 inches: gravelly sand

Properties and qualities
Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A
Ecological site: F139XY003OH - Dry Calcareous Drift Plains
Forage suitability group: Unnamed (G139XYB-1OH)
Other vegetative classification: Unnamed (G139XYB-1OH)
Hydric soil rating: No

Minor Components

Wooster

Percent of map unit: 4 percent
Landform: Moraines, till plains

Areas with less gravel in the surface layer

Percent of map unit: 3 percent

Areas with more gravel in the surface layer

Percent of map unit: 3 percent

EuC—Ellsworth-Urban land complex, 6 to 18 percent slopes

Map Unit Setting

National map unit symbol: 2v02f
Elevation: 590 to 1,970 feet
Mean annual precipitation: 33 to 52 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 135 to 215 days
Farmland classification: Not prime farmland

Map Unit Composition

Ellsworth and similar soils: 55 percent
Urban land: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ellsworth

Setting

Landform: Till plains
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope

Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Till

Typical profile

Ap - 0 to 8 inches: silt loam
BE - 8 to 11 inches: silty clay loam
Bt1 - 11 to 16 inches: silty clay loam
Bt2 - 16 to 25 inches: silty clay loam
Bt3 - 25 to 37 inches: silty clay loam
C - 37 to 60 inches: silty clay loam

Properties and qualities

Slope: 6 to 18 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 11 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: F139XY002OH - Moist Calcareous Drift Flats
Hydric soil rating: No

Description of Urban Land

Setting

Down-slope shape: Linear
Across-slope shape: Linear

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: Unranked

Minor Components

Udorthents

Percent of map unit: 10 percent
Hydric soil rating: Unranked

Mahoning

Percent of map unit: 5 percent
Landform: Till plains
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Interfluve, base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

GbC2—Geeburg silt loam, 6 to 12 percent slopes, moderately eroded

Map Unit Setting

National map unit symbol: wpv6
Elevation: 590 to 1,970 feet
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 48 to 54 degrees F
Frost-free period: 140 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition

Geeburg and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Geeburg

Setting

Landform: Hillsides
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Clayey lacustrine deposits

Typical profile

H1 - 0 to 7 inches: silt loam
H2 - 7 to 33 inches: silty clay
H3 - 33 to 60 inches: silty clay

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: F139XY002OH - Moist Calcareous Drift Flats
Hydric soil rating: No

Minor Components

Areas that are not eroded
Percent of map unit: 5 percent

Glenford
Percent of map unit: 5 percent
Landform: Terraces, lake plains

Ellsworth
Percent of map unit: 5 percent
Landform: Till plains

GbD2—Geeburg silt loam, 12 to 18 percent slopes, moderately eroded

Map Unit Setting
National map unit symbol: wpv7
Elevation: 590 to 1,970 feet
Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 48 to 54 degrees F
Frost-free period: 140 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition
Geeburg and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Geeburg

Setting
Landform: Hillsides
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey lacustrine deposits

Typical profile
H1 - 0 to 7 inches: silt loam
H2 - 7 to 33 inches: silty clay
H3 - 33 to 60 inches: silty clay

Properties and qualities
Slope: 12 to 18 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent

Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: F139XY002OH - Moist Calcareous Drift Flats
Hydric soil rating: No

Minor Components

Uneroded soils

Percent of map unit: 10 percent

Mn—Mahoning-Urban land complex, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2v031
Elevation: 590 to 1,970 feet
Mean annual precipitation: 33 to 52 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 135 to 215 days
Farmland classification: Not prime farmland

Map Unit Composition

Mahoning and similar soils: 45 percent
Urban land: 35 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mahoning

Setting

Landform: Till plains
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Interfluve, base slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Till

Typical profile

Ap - 0 to 7 inches: silt loam
Eg - 7 to 9 inches: silt loam
Btg - 9 to 12 inches: silty clay loam
Bt1 - 12 to 20 inches: silty clay
Bt2 - 20 to 30 inches: silty clay
BCt - 30 to 36 inches: clay loam
C - 36 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 6 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Ecological site: F139XY002OH - Moist Calcareous Drift Flats
Hydric soil rating: No

Description of Urban Land

Setting

Down-slope shape: Linear
Across-slope shape: Linear

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: Unranked

Minor Components

Udorthents

Percent of map unit: 10 percent
Hydric soil rating: Unranked

Ellsworth

Percent of map unit: 5 percent
Landform: Till plains
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Trumbull

Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Sb—Sebring silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2v057
Elevation: 590 to 1,970 feet
Mean annual precipitation: 33 to 52 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 135 to 215 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Sebring and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sebring

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Glaciolacustrine deposits

Typical profile

Ap - 0 to 9 inches: silt loam
BEg - 9 to 14 inches: silt loam
Btg - 14 to 38 inches: silty clay loam
BCg - 38 to 44 inches: silty clay loam
Cg - 44 to 72 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: About 0 to 9 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 9 percent
Available water supply, 0 to 60 inches: Very high (about 12.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: F139XY011OH - Wet Calcareous Depression
Hydric soil rating: Yes

Minor Components

Fitchville

Percent of map unit: 8 percent
Landform: Lakebeds (relict), terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Luray

Percent of map unit: 7 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

WrB—Wheeling silt loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: wpx8
Elevation: 590 to 1,970 feet
Mean annual precipitation: 32 to 55 inches
Mean annual air temperature: 46 to 57 degrees F
Frost-free period: 140 to 195 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Wheeling and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wheeling

Setting

Landform: Outwash terraces
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Outwash

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 35 inches: silt loam
H3 - 35 to 60 inches: sandy loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: F139XY005OH - Dry Acidic Drift Plains
Hydric soil rating: No

Minor Components

Chili

Percent of map unit: 5 percent
Landform: Terraces

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Hydric Rating by Map Unit

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Map Scale: 1:2,790 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Summit County, Ohio
Survey Area Data: Version 21, Aug 29, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 12, 2020—Sep 21, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ca	Canadice silty clay loam	95	0.1	0.2%
CcB	Caneadea silt loam, 2 to 6 percent slopes	3	14.0	49.2%
CoC2	Chili gravelly loam, 6 to 12 percent slopes, moderately eroded	0	2.1	7.5%
EuC	Ellsworth-Urban land complex, 6 to 18 percent slopes	0	2.3	8.1%
GbC2	Geeburg silt loam, 6 to 12 percent slopes, moderately eroded	0	4.4	15.3%
GbD2	Geeburg silt loam, 12 to 18 percent slopes, moderately eroded	0	0.1	0.3%
Mn	Mahoning-Urban land complex, 0 to 2 percent slopes	5	3.0	10.5%
Sb	Sebring silt loam, 0 to 2 percent slopes	92	0.4	1.4%
WrB	Wheeling silt loam, 2 to 6 percent slopes	0	2.1	7.4%
Totals for Area of Interest			**28.6**	**100.0%**

Rating Options—Hydric Rating by Map Unit

Aggregation Method: Percent Present

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Percent Present" returns the cumulative percent composition of all components of a map unit for which a certain condition is true. For example, attribute "Hydric Rating by Map Unit" returns the cumulative percent composition of all components of a map unit where the corresponding hydric rating is "Yes". Conditions may be simple or complex. At runtime, the user may be able to specify all, some or none of the conditions in question.

Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Lower

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

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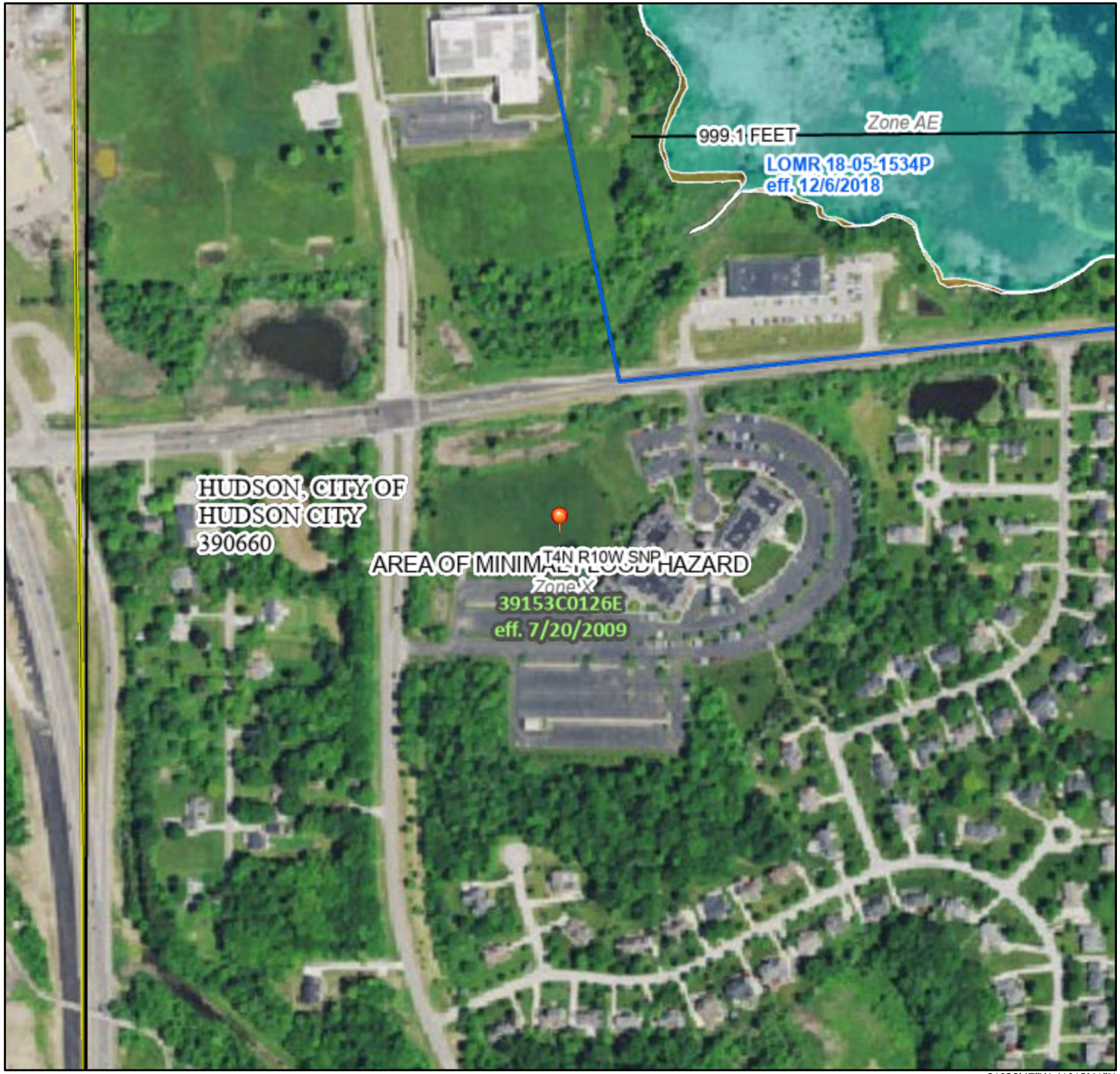
APPENDIX D – FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP

National Flood Hazard Layer FIRMette

FEMA

81°29'25"W 41°14'8"N



81°28'47"W 41°13'41"N

Feet

0 250 500 1,000 1,500 2,000

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 2/12/2025 at 6:19 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.